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ECONOMIC AFFAIRS

No. 1070

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## ECONOMIC POLICY, ORGANIZATION AND MANAGEMENT

### PLAN FULFILLMENT INDICES IN SVERDLOVSK OBLAST REVIEWED, REACTION

#### Suggestions Cited

Moscow EKONOMICHESKAYA GAZETA in Russian No 16, Apr 83 p 6

[Article by B.N. Yel'tsin, first secretary of the Sverdlovsk CPSU Obkom: "Economic Work and Effectiveness"]

[Text] The current year is to a certain degree special. It marks the mid-way point in the five-year plan. And this fact by itself prompts the desire to take a thorough look at what has been done in the first half, and to select for future use the best experience of effective economic work which is characteristic of the final stage in the transition to a predominantly intensive path of development.

Over a period of approximately six months a careful analysis of the forms and methods of economic work was carried out by the oblast's enterprises and organizations and by city and rayon party organizations; the experience acquired by the economic services in the work of improving production effectiveness was also studied. More than 70,000 economists, engineering technical-employees, brigade leaders and outstanding production workers took part in the discussion of these questions at economic conferences, seminars and meetings. The party committees joined with managers of economic units in summarizing about 10,000 proposals aimed at improving economic operations at oblast enterprises and organizations.

The recent oblast economic conference, which was organized by the Sverdlovsk CPSU Obkom and the editorial board of EKONOMICHESKAYA GAZETA, was the result of this mass review of the reserves for increasing production effectiveness on the basis of improved economic work.



### If Subjected To Analysis

But what has such a broad discussion of the means and goals of improving the level of economic work, as well as the mechanism of economic management and the style of production management, yielded for the labor collectives of the oblast and its party organizations? First of all, we received a totally reliable impression that the reserves for improving effectiveness which depend on the level of economic work are still not being fully utilized by enterprises and organizations.

In the course of preparing for the oblast economic conference and during the conference itself, it became clear, for example, that the economic services are still not actively enough utilizing their opportunities, that an economic analysis has not yet become that instrument against which every management decision is checked, that the positions of the one-year and five-year plans are being substantiated, and that the fulfillment of their indicators is being evaluated in comparison with effectiveness factors. I will use an example to explain.

For example, we can say with satisfaction that the oblast's industry has shown steady growth in the proportion of the increase in production volumes resulting from growth in labor productivity. In the last two years virtually the entire increase was obtained as a result of growing labor productivity. This is a good result, and we have the right to announce it with pride to our aktiv. But what if one turns to other criteria?

Here are the dynamics of labor productivity in comparison with its capital-labor ratio. Beginning in the 9th Five-Year Plan the rate of increase in the capital-labor ratio exceeded the rate of labor productivity growth by 3.2-fold. Consequently, the high percentage of increase in production volumes resulting from growth in labor productivity--if the absolute rate of growth in labor productivity and production is not taken into account--does not yet signify a real increase in production effectiveness, although we often emphasize precisely this relationship.

What should be the oblast party organization's line on the further improvement of labor productivity, and the efficient utilization of labor resources?

It would seem that in the sequence of measures priority should be given to the primary mechanization of the basic production processes and of supplementary and auxiliary work. It is here that labor resources can realistically be saved with few expenditures. And this is the orientation of the oblast's

special-purpose program for reducing the use of manual labor. Through the implementation of this program, the oblast's enterprises have achieved a significant reduction in the proportion of manual labor in the first two years of the five-year plan. The number of people engaged in manual labor has been reduced by 25,000.

More attention should be given to organizational factors in the improvement of labor productivity, as they do not, as a rule, require large material expenditures. We put the dissemination and intensification of brigade forms of labor organization and payment at the top of the list.

The managers of economic units, as well as economists, party and trade union organizations, should direct the bulk of their attention to making the brigade a cost-accounting production unit and an object of planning, as well as to coordinating the brigade indicator and the wages of the brigade members with the resolution of the main task, which is the production of output with the smallest possible expenditures. These requirements are most fully met by the brigades which have shifted to cost-accounting or the brigade contract. In our opinion, the essence of the problem lies here.

The urgency of these tasks is caused by the fact that in the oblast's industry only half the brigades use KTU (expansion unknown) and only 8 percent are cost accounting units. The Nizhnetagilsk Metallurgical Combine, the Verkh-Isetsk and the Nizhneserginsk Metallurgical Plants, as well as other enterprises, have none of these brigades. Nor have we made full use of the experience acquired by the Kaluga Turbine plant, where the total of the brigades' quotas corresponds in full to the plant's production plan.

A shift to a new evaluation system based on normative net output (nno) is an important condition for an objective appraisal of true growth in labor productivity. In the Northern Urals 422 enterprises, which turn out 51 percent of the oblast's total production volume, are operating on the basis of this indicator.

A majority of managers and economists rate this criterion highly; they note that the new indicator more objectively determines the dynamics of labor productivity, an enterprise's contribution to the national income, and largely removes the contradictions between the total planned volume of production and the labor-intensiveness of the changing product range.

At the same time experience shows that the shift to nno is effective when it is preceded by preparatory work and when this indicator is not viewed as prevailing over all others. It should be viewed as one element in the system of plan indicators within

the framework of those functions which have been determined for it, and it should be used primarily for analyzing reserves for the growth of labor productivity and its correlation with the growth of wages and salaries.

#### The Criterion of Innovation - High Effectiveness

The rate and scale on which new equipment and new technologies are introduced exerts paramount influence on the rate of growth in labor productivity and effectiveness in general. Our experience shows that it is essential to fight actively against "departmentalism," which frequently gives rise to the appearance of technical progress and makes it possible to pass off as "the latest word in equipment" some extremely mediocre engineering and design solutions, which do not provide the necessary economic effect.

And here, too, an answer should be given to the question of which equipment can be considered to be genuinely new? In our view, only that which is proved in the final analysis to be economical can be considered to be genuinely new and progressive. In places where new equipment and technology are subjected to the necessary economic analysis, they are becoming a source for the reduction of expenditures in the production of output as well as in its application in the national economy.

Every year the effectiveness which results from the economy's use of new machines and items at the oblast's machine building plants amounts to about 100 million rubles. At the Uralmash Association (A.S. Osintsev, deputy director in charge of economic questions), designs and organizational-technical measures are carefully analyzed before they are included in the comprehensive plan. All the services and branch plants have targets for the reduction of material- and labor-resource consumption, and their specific values are included in the normative-technical documentation and are compared to the best models. As a result, the productivity of the new, ESh 20/90 excavator is one third greater than that of its predecessor, the ESh 15/90, while the price is only 18 percent higher.

There are also examples of a different kind, which convince one that forgetting the principle of thrift and economy in new equipment leads to undesirable results. This kind of situation has developed at the Alapayevsk Lathe Plant, where they have been producing the 1 M365 lathe for three years. Its productivity is 20 percent greater than the previous model, but it costs 1.5-fold more. Further, unless the situation is corrected, the new model which is planned for production will show an even greater gap between price and the lathe's increased productivity. This kind of practice must be stopped in a decisive manner.



The party obkom has set before party organizations the task of ensuring that a comprehensive technical-economic analysis is carried out for new products under development, as well as for plans for the expansion or renovation of production units. We need to proceed from the premise that progressive equipment, advanced technology, the mechanization of production, the improvement of its organization and the full utilization of production capacities should result in increased labor productivity and real resource savings.

#### Expenditure Reductions - A Cost-Accounting Resource

In the first two years of the five-year plan our enterprises have saved 214,000 tons of ferrous metals, more than was stipulated in the special-purpose program developed throughout the oblast. The production of economical forms of metal output increased by 460,000 tons. Along with other measures which were implemented to improve the quality of rolled products and pipes, this provided consumers with a savings of 145,000 tons of ferrous metals.

In machine building most of the savings were achieved through the improvement of designs, a reduction in the metal-intensiveness of machines (42 percent) and the application of progressive, low-waste processes (29) percent. The Uralmash and Uralkhimmash Associations, the Turboengine Plant, the Uraleletrotyazhmash Association, the Tavdinskiy Mechanical Plant and certain others made the greatest contributions to the saving of metal.

At the same time there are inadequacies in the use of raw materials, secondary materials, fuel and energy at some enterprises and organizations. The proportion of material expenditures in the costs for commodity production is being reduced very slowly (from 71.6 to 70.3 percent in 7 years).

The Serov, Saldinsk and Alapayevsk Metallurgical Plants are not keeping within the the norms for the consumption of blanks during the production of rolled metal products. Many of the products of our machine-building plants fail to match the best domestic and foreign models in terms of their per unit metal-intensiveness. The utilization factor for rolled metal products is growing slowly. It is particularly low at the Baranchinsk Electromechanical and Sysertsk Electrotechnical Plants, at the Urals Compressor, Plant, the Sverdlovsk Pump Plant, and the Saransk Plant for the Production of Forging and Pressing Equipment.

Of course, implementing a technical policy is the function of the appropriate ministries. But the party obkom does not have the right to remain an aloof observer when it sees inadequacies in

this important work. And at every opportunity we direct the ministries' attention to the available reserves.

In particular, it would be useful for officials of the USSR Ministry of Ferrous Metallurgy to learn more about the operations of the Nizhnetagilsk Metallurgical Combine, where, for example, they do not weigh the incoming raw materials and fuel. Spot checks, as a rule, show short weights which reach 5-7 percent of the resources supplied. It is possible that the establishment of a procedure for freight intake would result in substantial improvements in the utilization indicators for raw materials and fuel at the combine and would change the suppliers' attitudes toward the raw materials.

Thus, we are talking first of all about a steady improvement in the setting of norms for the consumption of material resources, taking into account the achievements of scientific-technical progress and the best experience. After all, it is the lack of such work by the economic services that can explain the fact that the per unit resource consumption fluctuates within a wide range for operations at production units of the same type. For example, the actual expenditure of fuel per ton of smelted steel at low-volume open-hearth furnaces varies from 206 to 280 kilograms and for large-volume ones, it varies from 100 to 145 kilograms.

A poor normative base turns all planning upside down and gives rise to paradoxes. The better the indicators which collectives achieve in the reduction of material- and energy-resource consumption, the more unfavorable the conditions in which they find themselves, while those collective which are lagging behind continue at a lower level and do not catch up with the better ones.

A functional-cost analysis (fca) plays an important role in the reduction of expenditures. There is evidence of this to be found in the experience of the designers, technologists, economists and worker-efficiency experts at the Plant imeni Vorovskiy. They have subjected to a comprehensive analysis the design, manufacturing technology and the operation requirements for the power drill which is produced here. The analysis has made it possible to carry out measures which have resulted in a 31 percent reduction in expenditures for wages and a 39 percent reduction in expenditures for materials.

Similar examples provide evidence that the party committees at the oblast's associations and enterprises are obligated to begin monitoring the scale on which fca is applied, to delve into the essence of its results and to carry out an analysis using the activity norm for each economics and engineering service. This is one of the conditions for effectiveness in intra-plant cost



accounting, and the strengthening of its influence on the raising of production effectiveness.

#### To The Level Of New Requirements

During the preparation and conduct of the economic conference, thorough recommendations were worked out for the improvement of economic operations at the oblast's enterprises and organizations. The economic services are called on to raise their operations to the level of the new requirements, which meet the directives of the November (1982) CPSU Central Committee Plenum. They must become active implementers of the best experience acquired in the raising of effectiveness, and they must ensure the acceleration of the rate of scientific and technical progress, as well as improvement in the organization of labor and production.

At the conference critical comments, as well as various wishes, were directed to the higher economic and planning organs. A majority of these were related to the fact that many ministries and departments are slow in implementing measures to improve planning and to strengthen the influence of the economic mechanism on the work of improving production effectiveness and work quality.

Many ministries and agencies continue the practice of planning expenditures of labor, raw materials and fuel-energy resources on the basis of what has already been achieved, and not on the basis of technically-grounded standards.

The oblast's enterprises are experiencing great difficulties with payments for unloaded output, they have to go to great lengths to get accounts paid. The economists make completely correct assertions that the banks have hardly changed their credit practices. The supplier continues to carry the losses.

We think that the proposals made by the economists with regard to the re-establishment of the enterprises' independence in the utilization of the production development fund are correct. However, at present, the enterprises are essentially not interested in increasing the production development fund, and they have lost the opportunity to carry out the technical re-equipment process using resources from of this fund.

There is still much to be done in improving long-term economic ties. Unfortunately, the material-technical supply organs have not eliminated the condemned practice of replacing their suppliers frequently; they often link customers with suppliers whom they know to be unsuitable, and they are oriented toward capacities which have not actually been put into operation.

In his consideration of the tasks involved in further improving the rate of economic development, Yu. V. Andropov, general secretary of the CPSU Central Committee, emphasizes: "We have the foundation for it. And it lies in the high development level of the socialist economy. It lies in the vocational experience and skills of the Soviet working people. It lies in the availability of competent specialists and management personnel in the national economy; it lies in the powerful scientific and intellectual potential, the productive force of which is becoming ever more significant under present conditions. The job is to utilize all our opportunities better and faster, and to improve the standard of labor and the organization of production."

#### Ministry's Reply

Moscow EKONOMICHESKAYA GAZETA in Russian No 24, Jun 83 p 7

[Letter of reply by N. Samokhin, deputy head of Soyuzmetallurgprom]

[Text] In reply to the article "Economic Work and Effectiveness" (No 16)

The USSR Ministry of Ferrous Metallurgy thinks that this article contains a correct formulation of the issues regarding the need to strengthen economic work and to increase the role of the economic services at the ferrous metallurgy enterprises of Sverdlovsk Oblast.

In accordance with the 12 July 1979 decree of the CPSU Central Committee and the USSR Council of Ministers, the ministry and the enterprises worked out specific measures to accelerate the process of technical re-equipment and renovation, to improve planning and management, and to raise production effectiveness and work quality. Constant monitoring of progress in the implementation of these measures was established. At the Nizhnetagilsk Metallurgical Combine the implementation of these measures has made it possible to stabilize the production of the basic conversions and to ensure fulfillment of the plan for January-April 1983 in terms of the entire metallurgical cycle and economic indicators.

In accordance with a decision of the Sverdlovsk CPSU Oblast Committee, economic conferences were held at the combine on all the basic conversions and production units. More than 3,000 people, including 2,700 workers, participated in them. There were 174 measures accepted for implementation, and nine special-purpose programs were worked out, including ones for the saving of ferrous metals, the optimization of the fuel balance, the

efficient utilization of material and fuel-energy resources and others.

The sector's enterprises have established committees, which are already in operation, on the efficient utilization of material and energy resources, and on the provision of security for socialist property. They are analyzing the work of the enterprise's shops and production units on the adoption of effective measures to eliminate inadequacies in production and management activities. The economic activities of each subdivision are being subjected to a regular re-examination by an economic council or by an enterprise balance committee.

8543

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## PLANNING AND PLAN IMPLEMENTATION

### SUPPLEMENTAL PLAN ASSIGNMENTS FOR ENTERPRISES

Moscow EKONOMICHESKAYA GAZETA in Russian No 37, Sep 83 p 6

[Article by Nikolay Pavlovich Lebedinskiy, deputy chairman of USSR Gosplan:  
"On Supplemental Plan Assignments"]

[Text] Reader L. Serostopov from Zaporozhe asks:  
"Recently, at some industrial enterprises, there have been more operations being implemented in compliance with supplemental assignments of higher departments, not provided for in the State plan, and, as such, they are not supported by material, labor and financial resources. What is the procedure for solving such questions? What rights does the enterprise have, and what is their proper use?"

Other readers also want to know about this.

The readers' questions are answered by Nikolay Pavlovich LEBEDINSKIY, deputy chairman of USSR Gosplan.

#### The Rights of Enterprises

I will start with the last question on the rights of enterprises in planning and adopting supplementary orders. These rights are defined in the Statute on Socialist State Production Enterprise. Paragraph 48 of the statute states: "An enterprise has the right to take orders from other enterprises and organizations for performing operations and manufacturing products above the plan, using the customer's raw materials and materials or the enterprise's own materials and production wastes, if this is not detrimental to fulfilling the State plan set for the enterprise or its contract commitments."

It follows that enterprises can and must develop initiative and be enterprising in better use of production capacities and their own resources. The necessary condition is that this should not be detrimental to fulfilling the State plan or contract commitments.

An enterprise has wide rights in the area of planning. The rights are stated in a special section of the statute "Rights in the Area of Planning." It is emphasized here that the enterprise develops plan drafts based on planned figures with the widespread assistance of workers and office workers.

In the Law on Labor Collectives, adopted recently at the Eighth Session of the USSR Supreme Soviet, the powers of the labor collectives are expanded. Article 6 of the law states specifically that "drafts...of plans are presented for approval after the labor collectives have examined them."

That article of the law also states that the labor collectives "develop and adopt counter plans which include supplementary reserves and capabilities."

Thus, the enterprises have great potential for exploring production reserves and using them in production activity.

Now about changing a plan. Section 47 of the Statute on Enterprises states that a change in plan assignments approved for an enterprise may be made by a higher department only in exceptional cases after preliminary discussion of these questions with the enterprise administration in the manner and within the time frame set by the USSR Council of Ministers.

When a higher department changes an enterprise's plan assignments, the necessary changes must be introduced in all interrelated plan indicators and the budget estimates for the enterprise.

One other circumstance should be kept in mind: "All plan assignments are given to the enterprise only by a higher department" (Section 44 of the statute).

#### Supplementary Assignments for Certain Types of Commodities

In the established practice of planning, supplementary assignments for producing products are specified in the State plan and also in the process of realizing the plan (above the previously planned amounts).

It should be noted that this amount has decreased. In the 1983 plan, for example, supplementary assignments have been set for recovery and refining of crude oil.

The supplementary assignments in the State plan are set simultaneously with approval of the basic indicators for the next plan year and are part of the production program. As a rule, they are set mainly for the recovery or production of raw material resources in short supply in order to encourage the collective to work more intensively to surpass the basic plan.

There is a practice of setting such assignments in the State plan for production of consumer goods and retail goods turnover. This is done because there are often additional capabilities not included in the period of working out the plan that appear during the plan period. On the whole,



the practice of supplementary assignments to the State plan is a measure that we are forced to use, and it cannot be accepted as normal.

#### Increased Plan Assignments

According to Decree No 641 of the USSR Council of Ministers from 10 July 1967 "Additional Expansion of the Rights of USSR Ministers," ministries have the right to establish increased plan assignments for enterprises under their jurisdiction for the volume of production (sales) of industrial products up to two percent of the plan approved for them by the ministry and also correspondingly for other indicators.

Using this right, ministries establish increased plans for production of those products which are a weak point and may be a factor delaying quantity production by the ministry. In order to organize reserves for wages and an incentive fund (to help the enterprises), a ministry also has the right to establish increased plan assignments for smoothly operating collectives in the above-mentioned amounts. This decree gives ministries the right to establish reserves of raw materials, fuel, equipment and other material resources; this creates the possibility of allocating them if necessary to enterprises which have been given increased production assignments.

The increased plan assignments are established after a preliminary discussion of them with the enterprise's administration. Changes in all the inter-coordinated plan indicators and in the enterprise's budget estimates are introduced if necessary.

When a higher organization establishes increased plan assignments, the enterprise's management is given the right to raise the questions of supplementary allocations of material, labor and financial resources during their discussion.

When correctly applied, such a procedure for establishing increased plan assignments presents the possibility of better use of the enterprises' production capacities and material and financial resources without inflicting harm on them.

Adjusting a plan on the down side is another matter. The adjustments produce serious disproportions in the development of individual industries and enterprises. This faulty practice was criticized at the November plenum of the CPSU Central Committee. An especially intolerable situation occurs when the output volume of products decreases, but the wage fund does not decrease; that is to say, the output of products decreases, but the wages stay the same. Put on a state-wide scale, this results in a gap between commodity stocks in the stores and the population's money.

It is necessary to increase the responsibility of ministries and economic directors of associations and enterprises for strict adherence to plan discipline. Fulfilling the plan assignments for production and supply of products in the established products list is a matter of honor for each labor collective.

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## INVESTMENT, PRICES, BUDGET AND FINANCE

### FUNCTIONS OF USSR BANKING SYSTEM DISCUSSED

Moscow FINANSY SSSR in Russian No 6, Jun 83 pp 53-59

[Article by V. S. Zakharov, doctor of economic sciences: "USSR Banking System and Its Functions and Interaction With the Financial System"]

[Text] The USSR banking system represents the totality of all banks with their institutions functioning on the basis of the principle of state banking monopoly. Banks pertain to functional management bodies and through them the state implements a unified monetary and credit policy.

During the period of existence of the USSR banking system the network of credit bodies has expanded considerably. This corresponds to V. I. Lenin's directive on the need for the maximum possible increase in the number of bank institutions for the purpose of ensuring the accessibility of their operations both for enterprises and organizations, as well as for the entire population. Lenin's precepts have also been embodied in the concentration of banking in four major systems, that is, Gosbank [State Bank], Stroybank [All-Union Bank for Financing Capital Investments], Vneshtorgbank [Foreign Trade Bank] and SSSR Gostrudsbekassa [USSR State Workers' Savings Bank].

The essence of the activity of the banking system is manifested in its performance of certain functions. These functions distinguish banks from other management bodies. In the economic literature bank functions are usually examined in connection with a certain credit body. Such an approach is legitimate for a description of the appropriate bank, showing its differences from other banks.

At the same time, however, the content of the functions themselves and of their interconnections is impoverished inevitably. This article examines the functions of the banking system as a whole. The possibility for such an approach results from the unity of the country's monetary and credit system and the fulfillment by banks, in principle, of the same functions. Therefore, the differences in the activity of banks are determined mainly by the spheres in which they perform the functions inherent in the system as a whole. In particular, this circumstance makes it possible to ensure the interchangeability of bank bodies. Where the affiliates of Stroybank and Vneshtorgbank are absent, their functions are performed by Gosbank institutions. In turn state workers' savings banks, which have the most ramified network, can perform certain operations on behalf of Gosbank departments.

The functions of the banking system were formed a long time ago and in the course of time underwent negligible changes. The redistribution of the spheres of performance of functions among banks, whose number and purpose have repeatedly changed throughout our country's history, is a more mobile process. This also makes the examination of the functions of the banking system as a whole advisable.

The USSR banking system performs the following functions within the country: organization of noncash turnover; organization of cash turnover; crediting of the national economy; financing of capital investments and of the capital repair of fixed capital; accumulation of funds for crediting and financing; savings and state budget fulfillment in cash terms.

The organization of cash turnover is the specific feature of banks distinguishing them from other bodies for the functional management of the national economy. V. I. Lenin pointed out that mediation in payments is the basic and initial operation of banks.<sup>1</sup> On the one hand, the banking system regulates the presence in turnover of implements of payment and circulation with due regard for the needs of economic turnover and, on the other, exercises control over the course of monetary turnover and its correspondence to processes occurring in the national economy. Monetary turnover should mediate these processes and reflect them with maximum reliability. Banking information on monetary turnover is the fullest and by no means all the possibilities inherent in it are utilized. At the same time, however, we must not forget that monetary accounting is of a direct nature. Therefore, it cannot be absolutely identical to the movement of material and physical elements of the reproduction process.

Monetary turnover is carried out in two forms: noncash and cash. Therefore, it is legitimate to speak of two independent bank functions connected with the organization of the indicated parts of monetary turnover. Usually, the organization of noncash transactions is mentioned as one of these functions. It seems that this is too narrow and does not make it possible to disclose the entire diversity of bank activity connected with the organization of non-cash monetary turnover, which represents a more general concept than noncash transactions.

The function of organization of noncash turnover is connected primarily with the emission of instruments of payment into this turnover. It is carried out in the process of crediting of the national economy by banks. Issuing credits for the formation of circulating capital and for capital expenditures, banks provide noncash turnover with implements of payment.

The planning of noncash turnover and the determination of the number of necessary instruments of payment represent another element connected with this function. The author subscribes to the opinion of economists assuming that, in principle, the law of the amount of money in circulation is applicable to noncash turnover. However, the law of monetary circulation must not be replaced with the law of monetary turnover, as is proposed sometimes, because

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1. V. I. Lenin, "Poln. sobr. soch." [Complete Works], Vol 27, p 326.

the law of the amount of money operates differently in the cash and noncash parts of monetary turnover. In cash turnover a surplus of money inevitably leads to a rise in prices at the unorganized market and also has an effect on a rise in prices in state and cooperative trade. In connection with this one can recall the introduction of state commercial trade at prices close to market prices during the years of the Great Patriotic War. A surplus of money in noncash turnover cannot affect a rise in wholesale or purchase prices and is deposited in bank accounts. The owners of these accounts can acquire more physical assets than required for a normal production process. In turn the accumulation of above-plan reserves leads to the creation of a deficit of the corresponding output. A surplus of money in accounts can also have a negative effect on its amount in circulation. Of course, the differences are not confined to this. Their detailed examination is not our task. However, the negative consequences of a surplus of instruments of payment in noncash turnover are evident even from the above-stated.

The planning of various spheres of noncash turnover is done in the process of compilation of plans for economic and social development, the consolidated financial balance, the state budget, financial plans of ministries, associations and enterprises and a number of other plans. Bank credit plans are the most synthetic noncash turnover plans.

The problem of accounts in bank bodies, through which this turnover passes, pertains to the organization of noncash monetary turnover. Sometimes proposals for an expansion of the number of accounts in which money is kept are made. The initiators of proposals for keeping all special funds in special accounts pursue the goal of ensuring a purposeful utilization of the appropriate funds. This circumstance is very important and is taken into consideration, for example, when funds intended for current activity and for capital investment financing are kept separately. It is also necessary to limit the use of the capital of the material incentive fund and of other funds intended for the payment of bonuses in current accounts by enterprises for the creation of material reserves. This problem is especially aggravated under the conditions of the constant presence of remainders of some funds. However, a division of monetary turnover among a large number of accounts will worsen the possibilities for a current maneuvering of monetary resources and, owing to this, will require an increase in the bulk of instruments of payment, or will lead to a deterioration in payment discipline.

Finally, the organization of noncash transactions is an important component of the mentioned function. The system of such transactions includes the totality of their forms, methods and principles of execution, as well as of the requirements that they must meet. The principles of transactions are the most constant and the least subject to changes. The requirements placed on these transactions change as the methods of national economic management develop and improve. In turn the forms and methods of transactions should correspond to these requirements and adapt themselves to them as they change.

Ensuring the promptness and regularity of noncash transactions for output delivered in accordance with the concluded contracts is the most urgent problem. Despite the considerable privileges established in the use of payment credit,



this problem remains unsolved. This is indicated by the fact that the sum of underfulfillment of the delivery plan exceeds the sum of underfulfillment of the sales plan several times. The difference between the indicated values shows the amount of sales of output not in accordance with the contracts. The payment for it is effected with the participation of payment credit granted on preferential terms, although such terms are provided only for the payment for accounting documents for output delivered in accordance with the contracts. For a strict observance of this procedure it is necessary to clearly single out freight turnover in connection with the deliveries of the ordered output and to ensure the most favorable transaction regime for it. This applies both to the organization of crediting and of the transactions proper. Here it is advisable to expand the application of guaranteed forms, as well as the most rational methods of transactions. With regard to the sales of output outside the delivery plan, the payment for it should be made, as a rule, from the customer's own funds without the participation of bank credit.

The customer's consent to the payment for the output delivered to him is one of the principles of organization of noncash transactions. Both the speed of transactions and the possibility of control over the course of fulfillment of the delivery plan depend on the methods of expression of this consent. The most effective control is ensured during the acceptance of a commodity, that is, the payment for it after acceptance in terms of quantity and quality. Such an acceptance is most admissible in the delivery of agricultural products, as well as of other commodity stocks, according to acceptance and transfer documents. At the same time, when products are delivered over long distances, the acceptance of a commodity is hardly feasible. Therefore, acceptance of an account, in which the customer gives consent to payment on the basis of the data contained in accounting documents, is used. Under these conditions the opinion concerning the strengthening of control over the fulfillment of delivery contracts as a result of the replacement of subsequent acceptance with preliminary acceptance seems unconvincing. After all, regardless of whether payment is effected before or after acceptance, the customer can judge the fulfillment of contractual terms only from the accounting document. At the same time, the replacement of subsequent acceptance with preliminary acceptance will lead to a certain slowdown in the corresponding part of noncash turnover.

The function of organization of noncash monetary turnover is inherent in all bank bodies without exception. Gosbank is the country's accounting center, the overwhelming part of noncash turnover passing through its institutions. In Srobybank it mediates mainly capital investments and in Vneshtorgbank is connected with the international relations of our state. All three banks emit into noncash turnover instruments of payment in the process of advancing credit to enterprises and organizations of certain economic sectors, which keep their funds in accounts in these banks. The noncash turnover of the population, as well as of a certain part of organizations not engaged in production activity, is concentrated in the system of SSSR Gostrudsbekassa.

The organization of cash turnover includes primarily the emission of bank notes and the regulation of the amount of money in circulation. The monopoly right of emission is granted to Gosbank, which issues or withdraws money in



volumes determined by government decisions. At the same time, the amount of issue is maximal and, conversely, the amount of withdrawal, minimal. Essentially, the upper limit of the amount of money that can be in circulation at the end of the planned period (quarter) is established. At the same time, the duty of withdrawing money superfluous for circulation is imposed on Gosbank.

The maintenance of the established limits between cash and noncash turnovers is one of the tasks of banks in the performance of the indicated function. In the most general form it lies in strictly controlling the transformation of the money of noncash turnover into cash and in ensuring an unimpeded transfer of cash into noncash turnover.

The first part of this task is accomplished in the process of control over the issue of money from accounts. First of all, this applies to the issue of funds for wages as the basic channel of emission of money into cash turnover. Whereas bank control over the issue of funds for wages to workers and employees is very extensive, it is much weaker when they are issued for the payment of bonuses and is almost completely absent when they are issued for wages to kolkhoz members. In general, it should be noted that the division of monetary turnover into noncash and cash turnovers is not as mandatory for kolkhozes as, for example, for state enterprises and organizations. Undoubtedly, this weakens the observance of the very principle of division of monetary turnover.

Banks see to it that transactions among socialist enterprises, as a rule, proceed in noncash form and limit the issue of cash to them for these purposes. At the same time, they control the observance of the procedure of noncash transactions for goods and services, which are basically intended for sale to the population for cash.

The second part of the above-mentioned task is accomplished by means of every possible facilitation of the delivery of cash proceeds to Gosbank institutions, savings banks and communication bodies, as well as control over the promptness of such a delivery.

Cash turnover is the object of planning. Gosbank participates in the compilation of 5-year and annual balances of the population's monetary income and expenditure by planning bodies and draws up annual monetary circulation plans and quarterly cash plans. Cash plans approved by the government are directives in the area of monetary circulation for all bank bodies.

The organization of cash turnover is entrusted mainly to Gosbank, which is the country's cash center, carries out the emission of money, plans monetary circulation and controls the course of plan fulfillment. At the same time, the indicated function is also inherent in other banks. Stroybank and Vneshtorgbank institutions control the expenditure of wage funds by enterprises and organizations that have accounts with them and check the observance of cash discipline.

The participation of savings banks in the organization of cash turnover is also diverse. First of all, it is determined by the performance of their basic function--organization of savings. Then it is possible to note the

acceptance of payments from the population, collection of cash, which savings banks have the right to use for the performance of their operations, and issues of money on behalf of Gosbank institutions. As a result, cross hauls of money between them and Gosbank institutions are reduced. Organizing the population's noncash transactions, savings banks assist in reducing the amount of cash in circulation. They control the expenditure of wage funds by organizations and institutions that have accounts with them and the issue of cash to them for other purposes.

Bank credit appearing in monetary form is the basic form of credit under socialism. Therefore, bank bodies often are also called credit bodies. Credit issued by banks, according to the nature of its use by borrowers, can be divided into industrial (for purposes of production and circulation of products) and consumer (for meeting the population's consumer needs).

Industrial credit is allocated for the formation of circulating capital and capital expenditures. According to issue periods credit can be short-term, average-term and long-term. Credit periods are determined by the length of economic processes, for the performance of which they are issued. For example, noncoincidence of the dates of payments and receipts of funds can amount only to several days, during which the economic body uses payment credit. Credits against material reserves are issued for the time of their processing and sale, but, as a rule, for no more than 1 year. However, when, for example, it is a matter of compensation for the shortage of internal circulating capital, 1 year often proves to be insufficient and credits are issued for a period of up to 3 years. Thus, credits for the formation of circulating capital are basically of a short-term and partially of an average-term nature.

Periods of credits for capital investments depend on the types of capital expenditures, which, in turn, determine the time of their implementation. Thus, credits for technical retooling can be of a short-term nature. For example, work on the replacement of old machine tools with more productive ones and on the recovery of expenditures sometimes requires only a few months. The predominant part of credits for capital investments is of an average-term nature--up to 5 or 6 years. However, in a number of cases (in agriculture and for new construction in industry and other sectors) long-term credits for a period of up to 20 years are issued.

The system of crediting of the national economy includes principles and methods of crediting and forms of loan accounts. Whereas principles are the most stable element of this system, credit methods are subject to periodic changes. The requirements on transactions and the need to ensure their regularity and promptness are some of the most important reasons for these changes.

Consumer credit can be both of a direct and indirect nature. In the first case the bank issues it directly to citizens and in the second, through the enterprises and organizations in which they work. Credits for consumer purposes are issued by banks from their resources or from the funds of consumer cooperatives and public organizations. The volumes and allocations of credits are regulated by the short- and long-term credit plans of Gosbank and Stroybank approved by the USSR Council of Ministers.

Gosbank, Stroybank and Vneshtorgbank handle the extension of credit to the national economy and Gosbank and Stroybank, to the population. In the system of state workers' savings banks credit for the population's consumer needs is advanced only on an experimental basis. For example, several years ago savings banks in Voronezh Oblast were entrusted with the extension of credit for individual housing construction in rural areas. In some regions of the Belorussian SSR with the participation of savings banks goods are now sold on credit.

It should be noted that in the past savings banks also issued other credits. For example, during the prewar period they issued loans to citizens on the security of state loan obligations. In 1931-1935 they issued long-term loans to executive committees of local soviets and kolkhozes. Workers' interest in the results of work of savings banks was ensured through the allocation of part of the increase in deposits for the needs of local economic construction and for an improvement in cultural and domestic services for the public. Evidently, savings banks should be more widely enlisted in the issue of consumer credits. They have the necessary resources for this and a widely ramified network. Of course, it will be necessary to redistribute the staff between savings banks and the bodies that now issue such credits and to instruct savings bank workers in the performance of new functions.

The financing of capital investments from the funds of the state budget and from the internal funds of sectors, associations and enterprises goes through banks. Banks also finance the capital repair of fixed capital. Funds for the indicated purposes are issued from financing accounts, or, if the expenditures are small, from the current and running accounts of enterprises and organizations. Capital expenditures are financed only on condition that they are included in the state plan. Above-limit capital investments are possible only in individual cases.

Financing is carried out with the observance of certain principles. Its procedure is directly connected with the organization of settlements of accounts for performed construction and installation work and equipment, as well as with the extension of credit for them. For example, previously, accounts were settled according to the elements of expenditures or to the extent of performance of work. Clients issued advances to contractors, which were taken into account during final settlements of accounts. Now settlements of accounts for projects fully completed by a construction organization predominate and advances of clients have been replaced with bank credit for incomplete construction and installation work. The accumulation of funds for the issue of the indicated credits has required the opening of special accounts for this purpose.

The financing of capital investments is entrusted to Stroybank and Gosbank. Vneshtorgbank and state workers' savings banks perform this function only to the extent to which it is permitted to carry out financing from current and running accounts. Capital repair is financed by all banks at the place of location of the basic accounts of enterprises and organizations.



The accumulation of monetary assets for crediting and financing is one of the functions of the banking system. The method of accumulation of money is determined by the nature of its use. If funds are intended for outright financing, they are also withdrawn outright from their owners. Voluntary, as well as coercive, methods of withdrawing funds intended for the financing of capital investments and capital repair are applied. As is well known, banks have been given the right to indisputably write off the funds of associations and enterprises (profit and depreciation) if financial plans envisage their allocation for the indicated purposes. The nature of mobilization of credit resources is determined by the returnable nature of their subsequent use. The overwhelming part of these resources represent temporarily disposable monetary assets. Only state and reserve funds of banks, which are of a permanent nature, are an exception.

The time during which monetary assets are disposable differs greatly. For example, surpluses of funds can be available in current and running accounts for several days. However, the mass nature of these accounts makes the indicated resource quite stable. Funds also stay for a very short time in incomplete accounts. However, even here the stability of this resource is quite high, because it is determined by the mass nature and continuity of accounts on the scale of the entire national economy. Conversely, remainders of past years' budgets can be kept in an account in Gosbank for a very long time (several years) in the form of excess of the income of the budget over expenditures, which are accumulated over a long period and can be used only in accordance with the decision of the USSR Council of Ministers.

Temporarily disposable funds in bank accounts also differ in their economic content. One of their parts is connected with the current activity of enterprises, organizations and institutions, while the other represents accumulations intended for expanded reproduction. This circumstance is determining when resources are divided according to crediting purposes--for the formation of circulating capital or for expenditures on capital investments.

Different proposals connected with the accumulation of credit resources can be found in the economic literature. Sometimes an opinion is expressed on the need to restore the previously existing payment for keeping funds in bank accounts. The fact that the cost accounting principles of the relations of the bank with enterprises will be strengthened is the positive aspect of the proposal. However, when solving this problem, it is necessary to determine whether the payment of interest by banks will stimulate the keeping of funds in accounts. In our opinion, this will not happen. First, such a stimulation is not needed, because all enterprises and organizations must keep their money in the bank. Second, one can hardly hope that enterprises will prefer monetary over material accumulations. After all, the latter are much more closely connected with the regularity of the production process. Furthermore, the interest received from the bank will not have a marked effect on an increase in profit and economic incentive funds. Third, receiving interest cannot be an end in itself for enterprises. They are more interested in liquidating bank credits, on which higher interest is paid, with disposable funds. Therefore, as a rule, large sums of monetary assets should not accumulate for a long time in the accounts of enterprises. This can occur only when there are shortcomings in the organization of cost accounting, crediting and accounts at an appropriate enterprise.

All bank bodies perform the function of accumulation of monetary assets for crediting, because they keep the accounts of enterprises and organizations of various economic sectors and of the population and carry out noncash transactions. Funds for financing are accumulated by Stroybank and Gosbank in accordance with the division of the spheres of capital investment financing between them.

The state budget is fulfilled through the banking system. The fulfillment of the budget in terms of cash is entrusted to Gosbank. All the budget revenues accumulate in Gosbank accounts and from them budget funds are allocated for the financing of appropriate expenditures. Gosbank reporting shows the course of budget fulfillment and on its basis financial bodies make administrative decisions.

Other bank bodies are connected to one extent or another with the accumulation of individual types of budget revenues and with the financing of some expenditures from budget allocations. Through Stroybank budget funds are allocated for capital investment financing. At the same time, Stroybank accumulates the payments of contracting construction and other organizations in budget revenues. The activity of Vneshtorgbank is connected with the state budget along the line of accumulation of customs revenues, interstate credit accounts and a number of other directions.

Savings banks perform certain work on the fulfillment of the budget in terms of cash. This applies primarily to operations with state loans. Savings banks sell and buy bonds of floated loans and pay a premium on them. Bonds of loans floated by subscription among the population prior to 1957 are repaid through savings banks. They sell tickets for lotteries with money and goods as prizes, whose revenues are included in the budgets of the Union republics. Monetary lottery prizes are also issued from the same budgets through savings banks.

In the economic literature and textbooks savings are commonly discussed in connection with the organization of monetary circulation and the accumulation of monetary assets. Not denying this close connection, we would like to stress the independent nature of savings as one of the functions of the banking system. The scale of the population's savings, diversity of their forms and specificity of the methods of savings organization point to it. The organizational forms of savings include deposits in savings banks and Gosbank and floated loans. The population's temporarily disposable funds are attracted by means of income payments, that is, to depositors in the form of interest or premiums (on premium deposits) and to bond holders, in the form of premiums. At the same time, keeping money in deposits ensures its complete safety and makes it possible to make certain payments in noncash form. Vneshtorgbank, in which the current accounts of Soviet citizens working abroad are kept, also performs the indicated function in a certain sphere. The function of savings organization also includes bank operations connected with the noncash transfer of wages and other monetary income of the population to deposits.

Bank bodies constantly interact with financial bodies. This interaction is determined by the distribution of the functions and rights concerning the planning and meeting the needs for monetary assets between them and differentiation of the resources for covering them into budgetary, internal and



borrowed. The needs of economic bodies for loans for the formation of circulating capital and for the financing of capital investments are largely determined by the amounts of budgetary allocations for these purposes. In turn these needs serve as the initial values during the drawing up of credit plans. Remainders of funds in the accounts of Union, republic and local budgets, budget organizations and Gosstrakh [State Insurance Administration] are bank crediting resources.

Sometimes funds from the budget are allocated directly for the liquidation of individual types of credits. In 1978 debts on short- and long-term credits worth 7.3 billion rubles were written off from kolkhozes and sovkhozes and in 1982, worth 9.7 billion rubles from the funds of the budget of past years. The writing off of debts on loans was accompanied by a corresponding decrease in funds in budget accounts used as a crediting resource. This shows how closely the spheres of budget and credit redistribution of monetary assets are combined.

In the process of fulfillment of the state budget in terms of cash and of some other operations banks fulfill the decisions adopted by financial bodies within the powers granted them by law. Specifically, these decisions are also based on information received by financial bodies from banks. The bank has available the most complete information on the course of fulfillment of the state budget and it should correspond to the requirements placed on it on the part of financial bodies. The bank has an active effect on the fulfillment of the revenue part of the budget in the process of control over the fulfillment in the economy of plans for accumulations, over the order of writing off payments into the budget, over the promptness and completeness of transfer of the share of nonmaterial expenditures and profit to current accounts, over the transfer of the turnover tax from special loan accounts and so forth. At the same time, banks control the expenditure of budgetary funds during the performance of noncash transactions and the issue of cash.

The interaction of bank bodies with financial bodies in the process of financing and crediting of capital investments is diverse. The documents written out by financial bodies serve as the basis for the opening in banks of capital investment financing both from budgetary allocations and from the internal funds of economic units. The amounts of reinforcements from the budget for credit resources are indicated in the long-term crediting plans of banks. When the plans for the issue of credits are increased during the year, the appropriate changes are made in the relations of banks with the budget.

The boards of Gosbank and Stroybank and their republic offices annually submit to the USSR Ministry of Finance the calculations of the liquidation of credits for capital investments for the forthcoming year throughout ministries and departments, which are taken into consideration during the drawing up of the financial plans of national economic sectors and the distribution of the planned profit. This imposes certain responsibility on the ministries of finance of the Union republics, which must participate in the preparation of calculations and check their substantiation.

Financial bodies at all the levels of management are directly connected with the organization of cash turnover. The budget establishes certain parameters determining the population's monetary income and expenditure, that is, payments to the financial system and proceeds from it, payments of pensions and grants, inclusion of temporarily disposable funds in state internal loans and lotteries, payments of prizes for them and so forth. Financial bodies submit the materials and calculations necessary for the planning of monetary circulation to the appropriate Gosbank institutions.

There is a need for an expansion of business contacts of bank bodies with financial bodies along the line of organization of monetary circulation and savings. Financial bodies could take a more active part in the preparation and examination of cash plans and, what is most important, in the organization of their execution. In turn bank bodies could lean to a greater extent on financial bodies during the formulation of problems in the area of monetary circulation. The interest of financial bodies in an improvement in the state of monetary circulation is determined primarily by its connections with the sources of the income and direction of the expenditure of the state budget.

Let us take, as an example, the expenditure of wage funds, wages being the basic type of the population's income. At the same time, wages and deductions for social insurance occupy a high proportion in the expenditures on output. In 1981 it comprised 37.9 percent in the timber procurement industry, 23.6 percent in the fish industry, 22.2 percent in machine building and metalworking, 23 percent in the construction materials industry and so forth. The share of wages in total expenditures on construction and installation work comprises 33 percent. This shows that their economical expenditure significantly affects the fulfillment of the assignments for a reduction in production costs and accumulation plans.

The fulfillment of the plans for the production and delivery of consumer goods to trade has a direct effect both on the fulfillment of the turnover tax plan and on the satisfaction of the population's effective demand. The safety of the proceeds of enterprises providing paid services to the population and the liquidation of orders without receipts, transport passage without tickets and debts on rents and municipal payments are important for the fulfillment of accumulation plans by the appropriate enterprises and, at the same time, for the fulfillment of the income part of Gosbank's cash plan. Checks by financial bodies of the observance of staff-estimate discipline and of the correct payment of pensions and grants and measures taken on the basis of their results assist in reducing the issue of cash from bank tills.

The active work of savings banks on the sale of bonds of floated loans and of tickets for lotteries held in the Union republics affects the fulfillment of plans on budget revenues. On their part financial bodies must periodically check the availability of bonds of loans and lottery tickets in all savings banks to ensure their continuous sale. The USSR Ministry of Finance regularly transfers funds to savings banks to compensate for the expenditures on floated loans and on lotteries with money and goods as prizes, as well as to pay for the liquidated bonds of loans previously floated by subscription among the population and kolkhozes.

Banks jointly with financial bodies widely practice the performance of an analysis of the financial and economic activity of associations, enterprises, economic organizations, ministries and departments according to the data of their annual and quarterly reports. At the same time, principal attention is paid to an increase in the efficiency of the financial credit mechanism for the purpose of improving the qualitative indicators of management, mobilizing existing intrafarm reserves and increasing state revenues.

Financial bodies and banks draw up coordinating plans for an analysis of the economic and financial activity, as well as for checks in the localities on individual subject matters. The plans determine the list of enterprises and organizations, periods of performance of checks and methods of realizing their results. At the same time, the performance of checks on similar problems at the same enterprises and organizations at different times by bank and financial bodies is prevented. Moreover, provision is made for a mutual familiarization with the materials of checks made separately by bank or financial bodies. On the basis of the results of these checks proposals aimed at the fulfillment and overfulfillment of planned assignments, preservation and correct utilization of internal circulating capital and bank credit, acceleration of the rate of turnover of circulating capital, provision of the commissioning of production capacities and construction projects and strengthening of payment discipline are worked out jointly.

Financial bodies and Gosbank institutions conduct joint checks on the fulfillment of the plans for the production and delivery of consumer goods to the trade network and of retail trade turnover plans, on the observance of the limit of the number of workers and employees, on the expenditure of wage funds, on the observance of cash discipline, on the correct expenditure of funds for missions, on the state of recording and reporting and on the reliability of the submitted report data.

The wide range of joint actions of bank and financial bodies stems from the community of their functions as economic intersectorial management bodies. The unification of their efforts contributes to a fuller uncovering of the potentials existing in the economy and to the elimination of uncovered shortcomings.

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## REGIONAL DEVELOPMENT

### INTERSECTORIAL BALANCES IN FAR EASTERN, SIBERIAN DEVELOPMENT

#### Problems of Intersectorial Balances

Novosibirsk IZVESTIYA SIBIRSKOGO OTDELENIYA AKADEMII NAUK SSSR. SERIYA OBSHCHESTVENNYKH NAUK in Russian No 6, 1983 pp 52-54

[Article by V. M. Masakov: "Problems of the Intersectorial Balances of Siberia and the Far East"]

[Text] The first conference on the problems of the construction and use of the intersectorial balances of Siberia and the Far East, the organizers of which were the Institute of Economics and the Organization of Industrial Production of the Siberian Department of the USSR Academy of Sciences and the Institute of Economic Studies of the Far Eastern Scientific Center of the USSR Academy of Sciences (the conference chairmen were Corresponding Member of the USSR Academy of Sciences V. P. Chichkanov and Doctor of Economic Sciences Professor A. G. Granberg), was held from 7 to 10 September 1982 in the city of Divnogorsk (Krasnoyarsk Kray).

The reports of representatives of the named organizations, as well as the Central Institute of Economics and Mathematics of the USSR Academy of Sciences, the RSFSR Central Statistical Administration, the Sakhalin Complex Scientific Research Institute of the Far Eastern Scientific Center, the Yakutsk Affiliate of the Siberian Department of the USSR Academy of Sciences, Novosibirsk and Tomsk State Universities on the following problems were heard and discussed at the conference:

the experience of elaborating the intersectorial accounting balances of Siberia and the Far East; the methodology and methods of elaborating intersectorial balances in value and physical-value terms; the studies of the reproduction and intersectorial ratios of the development of Siberia and the Far East on the basis of the information of the intersectorial balances; the improvement of the preplanning regional economic studies on the basis of the intersectorial balances.

Deputy Chairman of the RSFSR Central Statistical Administration P. F. Guzhvin gave a report at the plenary meeting. He told about the experience of elaborating intersectorial balances at the republic Central Statistical Administration and described its basic stages. At present the intersectorial balances of the republic are elaborated annually according to a consolidated plan. The speaker devoted much attention to the role of this method in the analysis of the most important reproduction ratios in the regions of the country. The combining of the efforts of the republic Central Statistical Administration and scientific organizations both at the stage



of the elaboration of the intersectorial balances and during their comprehensive analysis, in the opinion of P. F. Guzhvin, is the main thing in the improvement of the practice of elaborating intersectorial balances. P. F. Guzhvin especially emphasized the urgency of solving the problem of the thorough mechanization of the process of processing the basic data for intersectorial balances on the basis of modern methods and computers.

The reports of several conference participants are published in abridged form in this issue of the journal.

A few words about the other reports: the many years of experience of elaborating and using in preplanning studies the intersectorial balances of the economic regions and oblasts of the Far East were covered in the report of P. M. Kilin (Institute of Economic Studies of the Far Eastern Scientific Center of the USSR Academy of Sciences). Such balances have already been created for 1966, 1972 and 1977 in a detailed classification. The central problem, on which the speaker focused attention, consists in the more adequate reflection, as compared with the existing approaches, in the regional intersectorial balances of the relations with respect to the importing and exporting of products. The author stated his point of view on this issue.

Information on the elaborations of intersectorial balances in physical-value terms, which have been started at the Institute of Economics and the Organization of Industrial Production of the Siberian Department of the USSR Academy of Sciences, was contained in the report of V. M. Masakov (Institute of Economics and the Organization of Industrial Production of the Siberian Department of the USSR Academy of Sciences). V. M. Masakov set forth several methodological approaches to the accomplishment of this task and questions of the correlation of the direct and indirect methods in the formation of various sections of the intersectorial balances in value and physical terms. The opinion of the need for the greater specialization of the intersectorial balances and their orientation toward the solution of major regional problems was expressed.

L. P. Keysh (Sakhalin Complex Scientific Research Institute of the USSR Academy of Sciences) characterized some results of the studies on the compilation, the reduction to comparable form and the use for long-range calculations of the 23-sector balance of Sakhalin Oblast. The report of Z. A. Kornilova, which contained an analysis of the intersectorial relations of the Yakutsk ASSR, aroused great interest. She noted that at present intersectorial balances of the republic for 1972 and 1977 in a 107-sector classification have been created. The questions of the quantitative evaluation of the structural changes in the rapidly growing economy and the questions of the elimination of the lag of ancillary and subsidiary works in the structure of the industrial production of the republic occupied a significant place in her statement. The creation of territorial production complexes is one of the progressive forms of the spatial organization of industrial production. The search for new spheres of use of the set of tools of intersectorial balances was the theme of the report of S. A. Dashkovskiy (Krasnoyarsk Department of the Institute of Economics and the Organization of Industrial Production of the Siberian Department of the USSR Academy of Sciences). He reported on the first experiments on the construction of intersectorial models of territorial production complexes on the basis of the example of Krasnoyarsk Kray.

The questions of the role of intersectorial balances for the practice of the planning of the economy of an oblast found reflection in the report of V. I. Arzamaskin (Tomsk University). The speaker expressed the opinion that the intersectorial balance serves as the basis when formulating long-range forecasts of the development of regions.

N. A. Beresneva (Novosibirsk University) reported on the results of experiments in accordance with the model of intersectorial balances of a region with a block of equations on the income and expenditures of the population on the basis of the example of Siberia. I. G. Razumovskaya (Central Institute of Economics and Mathematics of the USSR Academy of Sciences) raised the question of the need for the stepping up of the studies on the elaboration of the intersectorial balances of economic regions in physical-value terms (physical-value intersectorial balances). She dwelled in detail on the experience of elaborating physical-value intersectorial balances in the union republics and the organizational measures, which have been implemented by the Central Institute of Economics and Mathematics of the USSR Academy of Sciences in this direction.

Several special questions of the use of the method of the intersectorial balance in regional planning were covered in the statements of the representatives of the Krasnoyarsk Department of the Institute of Economics and the Organization of Industrial Production of the Siberian Department of the USSR Academy of Sciences. In recent years more and more authors have been working in the direction of the coordination of the schemes of the intersectorial balance with models of a different type. E. A. Burov examined the model of the intersectorial balance from the standpoint of the theory of optimum management within the framework of the existing economic mechanism. A. A. Tret'yakov described an original approach to the interconnection of the dynamic intersectorial model of the optimization type and the network schedule of the placement of production facilities into operation on the basis of the example of Krasnoyarsk Kray. The report of N. A. Shishatskiy was devoted to the questions of the interconnection of the model of the intersectorial balance of the region and the models of the reproduction of fixed capital with the use of the ideas of the simulation approach.

One of the methodologically most complicated questions is the use of intersectorial balances for the purposes of forecasting. The representatives of the Institute of Economic Studies of the Far Eastern Scientific Center of the USSR Academy of Sciences directed attention to these aspects of the problem and other aspects which are connected with them. N. G. Khomyakov gave a report on the use of Markov chains for the forecasting of the system of coefficients of direct material expenditures in intersectorial models. A. V. Bat'kov and V. N. Bykov covered the experience of the elaboration and use of intersectorial balances for the purposes of forecasting the development of the krays and oblasts of the Far East. One of the tasks consists in obtaining experimental intersectorial balances for the intermediate years during the periods of 1966-1972-1977 and in using them as the statistical bases for forecasts.

In accordance with the results of the work the conference participants adopted a detailed decision, which envisages the implementation of a number of measures on the generalization of the gained experience and the results of conducted studies. In particular, in 1983 the Institute of Economics and the Organization of Industrial Production of the Siberian Department of the USSR Academy of Sciences will

publish the materials of the conference in the form of a collection of scientific works, will prepare a bibliography of the works on the intersectorial balances of Siberia and the Far East and will compile a catalogue of the available programs on the elaboration and analysis of intersectorial balances.

It was deemed necessary to give assistance to the RSFSR Central Statistical Administration in the algorithmization of the construction and analysis of intersectorial balances, it was recommended to make an analysis of the intersectorial balances of Siberia and the Far East by the joint efforts of the RSFSR Central Statistical Administration and the scientific organizations of the Siberian Department of the USSR Academy of Sciences and the Far Eastern Scientific Center of the USSR Academy of Sciences. For the purposes of expediting the work on the improvement of the methodology of the intersectorial balances of Siberia and the Far East and for their more effective use in economic analysis and planning the following directions of further research were specified as the most important: the reflection of the indicators of the importing and exporting of products, the methods of the evaluation of products, the inclusion in the model of the intersectorial balance of the interrelations with respect to the income and consumption of the population, the construction of physical-value balances, the inclusion of the regional intersectorial balances in the interregional models and others.

The conference participants expressed thanks to the Divnogorsk City Committee of the CPSU and the Krasnoyarsk Department of the Forecasting of the Economic Development of the Region of the Institute of Economics and the Organization of Industrial Production for the good organization of the work of the conference.

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#### Directions of Research

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[Article by A. G. Granberg, Institute of Economics and the Organization of Industrial Production of the Siberian Department of the USSR Academy of Sciences (Novosibirsk): "The Directions and Problems of the Research on the Intersectorial Balances of Siberia and the Far East"]

[Text] The problems of the construction and use of intersectorial balances during the past two decades have held an exceptionally important place in Soviet economic sciences and statistical and planning practice. This work has encompassed all the union republics and many economic regions of the USSR. On the territory of Siberia and the Far East the first intersectorial balances were constructed in 1968 by a collective of staff members of the Institute of Economics and the Organization of Industrial Production of the Siberian Department of the USSR Academy of Sciences and a number of other organizations under the supervision of R. I. Shniper on the basis of the materials of a sample survey of the USSR Central Statistical Administration for 1966. In subsequently years the research on the intersectorial balances of the eastern regions of the RSFSR underwent considerable development at the Far Eastern Scientific Center, the Buryat and Yakutsk Affiliates of the Siberian Department of the USSR Academy of Sciences and a number of higher educational institutions. More than 20 monographs and collections of articles have been published on these problems.<sup>1</sup>



The work performed by the RSFSR Central Statistical Administration on the construction of intersectorial balances of the Western Siberian, Eastern Siberian and Far Eastern Economic Regions for 1972 and 1977 is of great importance. The priority given by the RSFSR Central Statistical Administration to the elaboration of intersectorial balances of the eastern zone of the country has significantly facilitated the activity of local scientific collectives.<sup>2</sup>

At present, in our opinion, four basic directions of the research on the intersectorial balances of Siberia and the Far East have formed:

the construction of intersectorial accounting balances (including the settlement of procedural questions, the organization of the collection and processing of statistical information);

the structural analysis of the economy of individual regions (the economic regions of the USSR, krais, oblasts, autonomous republics);

studies of the prospects of the economic development of individual regions on the basis of intersectorial models;

studies (retrospective and forecasting) of interregional economic interactions.

**The Construction of Intersectorial Balances.** Intersectorial balances are by right recognized as one of the most advanced forms of the generalization of statistical information. The fact that a large number of tables of the intersectorial balance were constructed not only for economic regions as a whole, but also for many oblasts, krais and autonomous republics, was a peculiarity of the organization of the work on the intersectorial balances of Siberia and the Far East. It is possible to specially single out (with respect to regularity and intensity) the works on Krasnoyarsk, Khabarovsk and Maritime Krais, the Buryat and Yakutsk ASSR's, Novosibirsk, Tomsk, Amur, Sakhalin and Kamchatka Oblasts. The experience (which, apparently, is unique) of compiling intersectorial balances for the territorial production complexes being formed on the territory of Krasnoyarsk Krai is interesting.

In the 1960's and early 1970's a significant portion of the work on the construction of regional intersectorial balances was performed by the forces of scientific organizations. It is possible to hope that in the future republic and local statistical organs will for the most part assume this task. As has already been noted, the balances for three eastern regions for 1972 and 1977 have been constructed by the RSFSR Central Statistical Administration; however, their more regular and prompt elaboration, especially for the final years of the five-year plans (which is important for retrospective economic analysis), is desirable. Science can expedite the introduction of intersectorial balances in statistical practice, having given effective assistance in the computer algorithmization of the most labor-consuming operations on the construction of the balances (in particular, the filling out and processing of the record forms of expenditures on production, the number of which comes to several tens of thousands).

Many scientific collectives now have methods of constructing the intersectorial balances. In this area there are definite advancements, particularly the elaboration of the material and financial relations and the balances with the distinction of the matrices of the expenditures of "noncomplementary" imports and the



consideration of the peculiarities of the trade and transportation markup in northern regions.<sup>3</sup> However, many procedural questions, which were formulated more than 20 years ago and are closely connected with the peculiarities of the formed system of accounting and statistics, have still not found a satisfactory settlement. Among them are the questions of the reflection of exports and imports, the evaluation of products, the comparability of the regional balances in space and time.

In a number of instances only the export-import balance of products of the sectors is shown in the intersectorial balances of the territorial units of Siberia and the Far East. These values, which are defined as the differences between the produced and used products, accumulate many errors of statistical reporting. The geographic structure of the exports and imports of products found reflection only in the intersectorial balances of the economic regions for 1977 and in a few balances of the administrative territorial units of the Far East.

Due to the sharp territorial differentiation of prices in the extractive industry and agriculture, the estimated cost of construction and transportation rates the interregional comparisons of the indicators of the intersectorial balances in value terms are complicated, the "physical" meaning of these comparisons to a considerable extent is lost. Suffice it to say that in the regions of the Far North the estimated costs of construction, the prices for livestock products and the rates for transportation, trade and supply services exceed by two- to threefold and more the average union ones per physical unit of a product or service. The work on the conversion of the indicators of the intersectorial balances into more adequate prices (from the point of view of interregional comparisons) is still at the initial stage, although individual experiments have yielded promising results (in particular, the conversions into the prices of the world market, the optimum economic evaluations and so forth). The work on the conversion of the dynamic series of the intersectorial balances into comparable prices has also been poorly organized. The frequency of the compiling of intersectorial balances by the organs of the Central Statistical Administration coincides approximately with the frequency of the major changes of wholesale prices and rates in the USSR national economy; therefore, without the conversion of the balances into comparable prices the possibilities of their use are confined for the most part to statistical analysis.

The peculiarities of the economy of the eastern regions of the RSFSR are making a number of specific demands on the improvement of the methods of constructing intersectorial balances. In particular, it is expedient to reflect more thoroughly in the balances such a type of activity as geological exploration (to evaluate the effective result, and not only the expenditures) and to show in a more differentiated manner the products of the sectors of specialization (for example, nonferrous metallurgy). It is now especially important to expedite the elaboration of the physical-value balances of Siberia and the Far East.<sup>4</sup>

It would be incorrect to limit the possibilities of the construction of intersectorial balances to "direct" methods of obtaining basic statistical information. In a number of instances it is also advisable to use indirect (analytical) methods of "reconstructing" the lacking information by simulation model calculations, the use of regressive analysis and so forth. The combination of direct and indirect methods is now the only possible means of expediting the work on physical-value balances and the construction of annual balances in value terms.

Other means of the more economical, but regular construction of intersectorial balances should also be sought. Apparently, the principle of the construction of the intersectorial balances of the Western Siberian and Eastern Siberian Economic Regions by the adding up of the balances, which are elaborated in advance, for ALL [in boldface] the administrative territorial units should be rejected (such a two-stage approach was used at the Institute of Economics and the Organization of Industrial Production of the Siberian Department of the USSR Academy of Sciences when elaborating the balances for 1966 and 1972). The construction of balances for krais, oblasts and autonomous republics is advisable only when active users of these balances exist (as, for example, in the Buryat ASSR, Tomsk and Novosibirsk Oblasts, Krasnoyarsk Kray, the majority of territorial units of the Far Eastern Region); it should not be regarded as a necessary condition of the construction of the balance for the economic region as a whole.

The Structural Analysis of the Economy of the Region. The construction of intersectorial balances stepped up appreciably the economic analysis of regional development. The studies of the reproduction and intersectorial ratios, particularly the physical and value structure of production, the structure of the national income (net output) being produced and used and so forth have received extensive dissemination and popularity. A number of monographs on the problems of the structure and efficiency of the regional economy have been prepared on the basis of the processing of the data of the intersectorial balances.<sup>5</sup> The analysis of the intersectorial balance is now being used extensively when preparing comprehensive scientific reports (or sections of the comprehensive reports) on the trends and the problems of the economic development of the regions of Siberia and the Far East.

Nevertheless the possibilities of the intersectorial balance in the regional economic analysis are still being used inadequately. As a rule, generalized and structural indicators, which are obtained by the elementary analysis of the table of the intersectorial balance, are involved in the analysis. The possibilities of mathematical economic analysis, which reveals the indirect intersectorial interdependences, are used considerably more rarely, although the methods of such an analysis have been elaborated in sufficient detail (the determination of the total national economic expenditures, the distribution of the expenditures of products and resources on the funds of final consumption, the calculations of the total expenditures on the exporting and the total saving from the importing of products and so on).<sup>6</sup> It is also possible to note the following drawback: the tendency to make a fetish of some macroindicators, in spite of the obvious flaws of the economic measurers being used (for example, the comparisons of the produced and used national income and the opinions connected with this about the "contribution" of the region to the national economy, as well as the comparisons of labor productivity in different sectors, in spite of the unsuitability of the established prices for comparisons of this sort). The methods of the intersectorial balance are still being combined comparatively rarely with other analytical methods, particularly mathematical statistical methods (correlation and regression analysis, factor analysis and so forth), as well as with the use of external technical, economic and social information. However, in recent years the work on the development of comprehensive methods of regional retrospective economic analysis has been stepped up at the Institute of Economics and the Organization of Industrial Production of the Siberian Department of the USSR Academy of Sciences and the Institute of Economic Studies of the Far Eastern Scientific Center. The comprehensive procedural approaches, which are being elaborated, have already found use in the retrospective

analysis of the economic development of Siberia and the Far East for the past 20 years.<sup>7</sup>

Studies of the Prospects of the Economic Development of Regions. From the very start of the work on the intersectorial balances of Siberia and the Far East the task of their use in forecasting and planning was posed.<sup>8</sup> Individual forecasting calculations in accordance with the static and dynamic models of the intersectorial balance were used already when preparing the proposals on the development of Siberia and the Far East for the 9th and 10th Five-Year Plans.

Two trends are characteristic of the present stage of the intersectorial mathematical economic studies which are being conducted at scientific organizations.

The first trend is connected with the enhancement of the role of the USSR Academy of Sciences in the preparation of documents on the economic, social, scientific and technical development of the country and its individual regions in conformity with the new procedure of long-term planning. When drafting the Comprehensive Program of USSR Scientific and Technical Progress for 1986-2005 the programs of the development of Siberia and the Far East were singled out for the first time as mandatory components of it. When preparing the general economic sections of these programs the Institute of Economics and the Organization of Industrial Production of the Siberian Department of the USSR Academy of Sciences and the Institute of Economic Studies of the Far Eastern Scientific Center used the results of the multivariant calculations according to the intersectorial models. The second trend finds expression in the fact that in the process of preplanning studies, as well as during the study of the mechanisms of the fulfillment of the plans along with the "classical" intersectorial models more complicated model complexes, in which the intersectorial models are combined with other types of models, are being used more and more frequently. Thus, when drafting the programs of the development of Krasnoyarsk Krai a combination of the intersectorial and network model is used, a simulation model with a built in model of the intersectorial balances has been proposed for the study of the processes of the management of regional development.<sup>9</sup>

The broadening of the sphere of regional planning and the changeover to the drafting of the plans of comprehensive economic and social development on the level of autonomous republics, krays and oblasts are improving the situation for the introduction of intersectorial models directly in the technology of planning activity. Many hopes are connected with the creation of automated systems of planning calculations. It is important, however, that the development of automated systems of planning calculations would take place not only in the direction of the algorithmization of planning calculations, but also in the direction of the enlargement of the composition of the planning tasks, which are accomplished by means of mathematical models and are based on a unified system of planning information.

The Study of Interregional Economic Interactions. The creation of a system of regional intersectorial balances is affording fundamentally new possibilities for the study of the interactions of regional economic complexes.

An interregional intersectorial model, by means of which versions of the territorial proportions of the development of the USSR national economy are analyzed, has been operating at the Institute of Economics and the Organization of Industrial Production of the Siberian Department of the USSR Academy of Sciences since 1967. The problems of the economic interaction of Siberia and the Far East with other regions of the country are being examined most carefully. A significant series of



studies was conducted when preparing the proposals on the economic and social development of the eastern regions of the country for the long-range future,<sup>10</sup> and then when drafting the Comprehensive program of Scientific and Technical Progress for 1986-2005.

The special operations on the construction and analysis of the interregional intersectorial balances have been stepped up in recent years. An interregional balance, which reveals the interrelations between the seven territorial units (for analytical purposes they have been combined into three zones), has been constructed for the Far Eastern Economic Region. The procedural novelty of the performed work consists in the fact that it was combined with the accomplishment of such a difficult task as the singling out of the matrices of "noncomplementary" imports.<sup>11</sup>

The elaboration, which was carried out by the RSFSR Central Statistical Administration, of the intersectorial balances of the eastern economic regions, which include the geographic structure of exports and imports, enabled the collective of staff members of the Institute of Economics and the Organization of Industrial Production of the Siberian Department of the USSR Academy of Sciences to construct and analyze the interregional balance of the RSFSR for 1977 with a breakdown by four regions: the European zone with the Urals and the three regions of Siberia and the Far East. In the future it is planned by means of interregional intersectorial models of this type to carry out the study of the effective directions of the economic integration of Siberia and the Far East and the rationalization of their economic relations within the unified national economic complex.

The implementation of the program of studies of the intersectorial and interregional problems of Siberia and the Far East requires the strengthening of the cooperation of statistical, planning and scientific organizations.

#### FOOTNOTES

1. A bibliography of the works on the problems of the intersectorial balances of Siberia and the Far East is being published in the collective of reports of the conference which was held in Divnogorsk. See "Opyt razrabotki i primeneniya mezhotraslevykh balansov Sibiri i Dal'nego Vostoka" [The Experience of Elaborating and Using the Intersectorial Balances of Siberia and the Far East], rotoprint, Novosibirsk, IEIOPP SO AN SSSR, 1983.
2. Statistical organs for the present are not carrying out the regular elaboration of intersectorial balances for the other economic regions located on the territory of the RSFSR.
3. See "Mezhotraslevyye svyazi i narodnokhozyaystvennyye propotsii Vostochnoy Sibiri i Dal'nego Vostoka" [The Intersectorial Relations and National Economic Proportions of Eastern Siberia and the Far East], Novosibirsk, Nauka, 1974; "Mezhotraslevyye balansy v analize territorial'nykh propotsiy SSSR" [Intersectorial Balances in the Analysis of the Territorial Proportions of the USSR], Novosibirsk, Nauka, 1975; "Balansovyy metod v analize i planirovani regional'noy ekonomiki" [The Balance Sheet Method in the Analysis and Planning of the Regional Economy], Novosibirsk, Nauka, 1977; P. M. Kilin, "Regional'nyye mezhotraslevyye balansy" [Regional Intersectorial Balances], Moscow, Nauka, 1979; O. A. Suslova, "Procedural Questions of the Elaboration of Intersectorial



Accounting Balances of the Large Economic Regions of Siberia," in this issue of the journal.

4. The work on the physical-value balances of the economic regions of the RSFSR is being organized by the Central Institute of Economics and Mathematics of the USSR Academy of Sciences with an orientation toward the simultaneous elaboration of all the balances. A proposal on the priority construction of four balances: for the RSFSR as a whole, the Western Siberian, Eastern Siberian and Far Eastern Regions, was offered at the conference in Divnogorsk. This would make it possible to obtain automatically a balance for the western zone of the RSFSR and, thus, to have a closed system of territorial balances of the RSFSR for economic analysis and preplanning studies. At the second stage of the work, as the balances for new regions are compiled, they will be separated from the consolidated balance of the western zone. Thereby the number of elaborated balances will not simply be increased, but the system of regional balances, which is suitable for the study of the processes of interregional interactions, will be continuously worked out in detail.
5. "Mezhotraslevyye svyazi i narodnokhozyaystvennyye propotsii..."; G. M. Radnaye, "Narodnokhozyaystvennyy kompleks Buryatskoy ASSR" [The National Economic Complex of the Buryat ASSR], Novosibirsk, 1979; B. N. Zykin, "Effektivnost' regional'noy ekonomiki" [The Efficiency of the Regional Economy], Moscow, Nauka, 1981; "Regional'nyy aspekt effektivnosti obshchestvennogo proizvodstva" [The Regional Aspect of the Efficiency of Social Production], Vladivostok, 1981, and others.
6. See "Mezhotraslevyye balansy v analize...", Chapters 1, 4, 8.
7. See "Sibir' v yedynom narodnokhozyaystvennom komplekse" [Siberia in the Unified National Economic Complex], Novosibirsk, Nauka, 1980; "Retrospektivnyy analiz ekonomiki Dal'nego Vostoka" [A Retrospective Analysis of the Economy of the Far East], Vladivostok, 1982.
8. See B. P. Orlov, R. I. Shniper, "Ekonomicheskaya reforma i territorial'noye planirovaniye" [Economic Reform and Territorial Planning], Moscow, Ekonomika, 1968; R. I. Shniper, "Svodnoye planirovaniye narodnogo khozyaystva oblasti i kraya" [The Consolidated Planning of the National Economy of the Oblast and Kray], Moscow, Ekonomika, 1972.
9. See, for example, "Mezhotraslevyye modeli v analize i planirovanii razvitiya sibirskikh regionov" [Intersectorial Models in the Analysis and Planning of the Development of Siberian Regions], Novosibirsk, 1980.
10. See "Sibir' v yedynom narodnokhozyaystvennom komplekse," Chapter 3.
11. See the article of N. N. Mikheyeva in this issue of the journal.

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[Article by V. P. Chichkanov and P. A. Minakir, Institute of Economic Studies of the Far Eastern Scientific Center of the USSR Academy of Sciences (Khabarovsk): "The Use of Intersectorial Models When Elaborating the Program of the Development of the Productive Forces of the Far Eastern Economic Region for the Long-Range Future"]

[Text] Under present conditions such a factor of economic development as the efficient use of the accumulated production potential is being brought to the forefront. From the point of view of the regional economy this means that the problems of the substantiation of the optimum long-term development of individual regions in the unified national economic complex, which, of course, is a more complicated task than just the study of regional economic systems, are coming to the forefront. This task cannot be successfully accomplished without the use of the method of modeling, which makes it possible to describe the most essential interrelations within the regional systems and between them, as well as to conduct experiments for the purpose of determining the optimum conditions of the functioning and development of one regional system or another within the framework of the national economic complex in case of different situations in the area of resources and the goals of development.

There is characteristic of the eastern regions of the country, particularly the Far Eastern Economic Region, such a situation when, on the one hand, their insufficiently efficient and dynamic development checks the economic growth of the country, but, on the other, the established trends and traditions of economic development and management cannot ensure any substantial change of the rates and directions of the development of the productive forces of the region.

Under these conditions the programs of the development of the productive forces of regions, which are intended for a lengthy period and which would determine the main directions of regional economic growth, would concentrate attention and resources on the solution of the most important socioeconomic problems of the region with allowance made for the national economic tasks and the potentials, would eliminate the departmental approach in the solution of the fundamental problems of regional development--the formation of the structure of production, intraregional and interregional relations, the proportions in the distribution of resources between the sectors of specialization and auxiliary complexes, between physical production and the social infrastructure and so on--are acquiring great importance.

The programs of the development of the productive forces of regions, in the opinion of the authors, are significantly more complicated than production, technological, scientific and technical programs. The main difference is that the programs of the economic development of regions consist of two "cross-sections"--the program-outline and the program-plan. The program-outline is a consolidated project of the development of the economy of a region in the future according to the basic line items and specifies the most important proportions and the directions of the change of the economic structure. The most important problems, the solution of which governs the achievement of the outlined parameters of the long-range development of the regions

in one area or another, are also distinguished within the framework of the program-outline. And these problems, their solution become the subject of consideration when selecting the program-plans, which are the comprehensive goal programs proper on the solution of individual regional problems.

The elaboration of the program-outline, which in a certain sense has been specified, has been coordinated with the resources and has been balanced by periods by the concept of the development of the productive forces of the region, seems most important to us for the optimization of regional development. The existence of such a program on the condition of the existence of planning and management organs, which are equal to it, can ensure the selection for inclusion in the national economic plans of such decisions for the given region, which meet the requirement of the efficient use of resources of national labor on the territorial level.

The procedure of the elaboration of the basic parameters of the program-outline for the Far Eastern Economic Region is shown in the diagram. Such a program is presently being elaborated by the Far Eastern Scientific Center of the USSR Academy of Sciences jointly with a number of scientific research, design and planning organizations of the Far East, Siberia and Moscow.

Diagram of the Elaboration of the Long-Term Program of the Development of the Productive Forces of the Far Eastern Economic Region



[Key on following page]

**Key:**

1. Analysis of the place and role of the region in the national economic complex
2. The elaboration of the goals and structure of the program
3. Analysis of the trends and problems of the development of the region
4. Determination of the long-term appraisals of development from the national economic and regionwide points of view
5. The effectiveness of the use of manpower resources and capital investments
6. The elaboration of effective versions of the development of the sectors and spheres of the regional economy
7. The elaboration of effective versions of territorial development

The Far Eastern Economic Region is at present a quite developed economic complex, in which the sectors of all-union specialization, two of which (nonferrous metallurgy and the fish industry) are playing a significant role in the formation of the intra-union physical balances of the corresponding products, are distinguished, while the timber industry acts as an important supplier of products for union exports, providing a significant portion of the unprocessed lumber which is exported to the countries of the Pacific basin. The development of the sectors of specialization is being supported by the industrial infrastructure, as well by relatively highly developed transportation and construction. As a whole the industry of the Far Eastern Economic Region provides 2.6 percent of the union volume of the gross industrial output, more than 5 percent of the all-union amount of construction and installation work is being performed here. Practically all the sectors of industry are represented in the region in a consolidated list.

Therefore the elaboration of the basic parameters of the program-outline of the development of the productive forces of the region resumes the elaboration of coordinated parameters of the development of the branched structure of the economy. These parameters should be coordinated both with a breakdown by individual sectors of industry and the national economy and with the regionwide indicators of development.

The formulation of such a complicated structure of the indicators requires the use of methods of mathematical economic modeling. Here in connection with the multi-sectorial structure of the economy of the region the models being used should be of an intersectorial nature.

At present two types of intersectorial optimization models: the interzonal intersectorial model of the USSR and the interregional intersectorial model of the Far Eastern Economic Region, in which the krais, oblasts and autonomous republic of the Far East are understood as regions, are being used in the process of substantiating the basic parameters of the program of the development of the economy of the region.

Various hypotheses with respect to the development of the region as an economic integrity in the unified national economic complex under various conditions of the development of the country and in case of different trends of the intraregional economic growth, are verified within the framework of the first model, which was elaborated at the Siberian Department of the USSR Academy of Sciences. All the sectors of the regional economy in this model from the standpoint of their



importance for the formation of the policy of economic development are divided into two parts: the sectors of all-union specialization and the remaining economic complex, which is subordinate in its development to the interests of the supply of the national economy with the products of the sectors of specialization.

The second model is used for the determination of the efficient proportions of territorial development within the economic region, the efficient specialization of various krays and oblasts, the verification of various hypotheses of the development of krays and oblasts in different resource situations, in case of different plans of the development of the sectors of all-union specialization, which are distributed extremely nonuniformly over the territory of the economic region.

The interzonal intersectorial model, thus, is used (see the diagram) at the stage of the analysis of the place and role of the region in the national economic complex and the elaboration of the goals of the program, its structure and basic quantitative parameters. The intersectorial interregional model is used at the "ground floor" of the diagram--for the elaboration of effective versions of territorial development. Consequently, the intersectorial interregional models are of very great, even key importance in the process of the substantiation and elaboration of the program-outline of the development of the productive forces of the Far Eastern Economic Region. The use of these models not only for more or less hypothetical experiments of different kinds, but also for the obtaining of reliable preplanning results, which would be the basis for the elaboration of long-range planning decisions, is connected, in addition to the improvement of the models themselves, with the improvement of their information support and first of all with the improvement of the balance base. The increase of the number of intersectorial balances (and not only of the Far Eastern Economic Region as a whole, but also the balances of individual krays and oblasts of the region), the improvement of their quality and their reduction to a form, which is comparable with the balances of other economic regions and the country as a whole, are an urgent necessity. At present it is possible to regard only two balances--for 1966 and 1972--as the information base of the models. Moreover, the balances for these years poorly compare with each other. There is a portion of the balances of the krays and oblasts of the region for 1977, which are incomparable with the balance of the economic region as a whole, which was elaborated by the RSFSR Central Statistical Administration.

The second important problem of the use of intersectorial models on the basis of intersectorial balances is the obtaining of reliable evaluations based on such models. This presumes the adjustment of the indicators of the intersectorial balance for a long-term period, for which a program is being elaborated. The elaboration of statistical methods of such adjustment is being carried out at present at the Institute of Economic Studies. The successful completion of these studies and the testing of the new methods can improve substantially the possibilities of forecasting intersectorial interactions.

Thus, for the successful use of intersectorial balances in the elaboration of programs of regional development it is necessary to accomplish the following tasks:

- 1) to elaborate a system of intersectorial balances of the krays and oblasts of the Far Eastern Economic Region and of the region as a whole for 1977 and 1982;

2) to standardize the balances, which are being elaborated at various organizations of the Far East and the country, from the point of view of prices and the calculation of imports-exports;

3) to elaborate methods of the adjustment of the intersectorial accounting balances and to prepare balance information for long-range calculations in accordance with the intersectorial models.

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#### Accounting Balances

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[Article by O. A. Suslova, Institute of Economics and the Organization of Industrial Production of the Siberian Department of the USSR Academy of Sciences (Novosibirsk): "Procedural Questions of the Elaboration of Intersectorial Accounting Balances of the Large Economic Regions of Siberia"]

[Text] In the article an attempt is made to generalize the results of the work on the compiling of intersectorial accounting balances of the economic regions of Siberia in value terms for the purpose of the identification of the peculiarities of the methods of their elaboration, the evaluation of the shortcomings and the determination of the possible directions of its improvement.<sup>1</sup>

Let us examine the following procedural questions: the investigation of the structure of expenditures, prices and questions of the calculation of the trade and transportation markup, the reflection of external ties in the balances, the possibility of the annual compiling of intersectorial balances and others.

The Investigation of the Structure of Expenditures. The materials of one-time sample surveys of the expenditures in the sectors of physical production and the nonproduction sphere, which were conducted by the RSFSR Central Statistical Administration in 1966, 1972 and 1977, served as the information base of the elaboration of the intersectorial accounting balances of the regions of Siberia. In these surveys the selection of enterprises and organizations was made on the basis of the representativeness of the sample for the RSFSR as a whole.

The analysis of the representativeness of the data of the survey of enterprises and organizations of the large economic regions of Siberia is of interest to us. The intersectorial accounting balances of the economic regions of Siberia for 1966 and 1972 were obtained by adding up the balances of the corresponding krais, oblasts and autonomous republics.

The number of industrial enterprises of the oblasts of Siberia, which came to be in the sample of 1966, is relatively small. Thus, for example, for Novosibirsk Oblast the surveyed enterprises accounted for only 40 percent of the gross output of industry of the oblast. Only the enterprises of ferrous and nonferrous metallurgy and a number of sectors of machine building and the chemical industry were surveyed in full. Some sectors of industry of the oblasts of Siberia, even in the consolidated classification of sectors, were not surveyed, for example, electric and thermal power engineering of Novosibirsk Oblast.

In 1972 nearly three-fourths of the gross output of industry was investigated for the same Novosibirsk Oblast. From 60 to 100 percent of the enterprises of the sectors in the consolidated classification were included in the sample. Moreover, as a rule, large enterprises, which have a decisive influence on the formation of the expenditures in the sector, were surveyed. Only a few subsectors of industry, for example, the production of chemical fiber and the products of the pharmaceutical chemical industry of Novosibirsk Oblast, remained unsurveyed. For such sectors when compiling the balances of 1966 and 1972 the expenditures were calculated on the basis of the data of the survey of similar sectors of other regions.

The 1977 intersectorial accounting balances of Western and Eastern Siberia were elaborated with respect to the regions as a whole. Of the 104 industrial sectors 90 sectors were surveyed in full or nearly in full. The share of the surveyed enterprises in the gross output of industry of the economic regions came to more than 80 percent. And still several industrial subsectors were not surveyed, for example, the other sectors of machine building for Siberia as a whole, the production of the products of basic organic synthesis in Western Siberia, knitwear in Eastern Siberia and several others.

In all the surveys conducted by the RSFSR Central Statistical Administration the coverage of the enterprises and organizations of other sectors of physical production and the nonproduction sphere was less complete as compared with industry. Thus, for example, the share of the agricultural enterprises surveyed in 1966, 1972 and 1977 comes to about 10 percent of the total number of kolkhozes and sovkhozes of Siberia. However, it is possible to regard this sample as entirely representative, since the specialization of agricultural enterprises is more uniform than that of the other sectors of the national economy. In connection with which the variation of the structure of expenditures is comparatively small.

In the nonproduction sphere of Siberia in 1966 only health care and education were surveyed, but not for all the oblasts. In 1972 such sectors as science and scientific service, management, road maintenance and communications which serve the population, were not surveyed for Siberia as a whole. For these sectors the structure of expenditures was obtained on the basis of the data for the RSFSR as a whole. In the other nonproduction sectors the proportion of the surveyed enterprises and organizations for 1972 was relatively small (from 1 to 12 percent). In 1977 the proportion of the surveyed enterprises of the nonproduction sphere was increased, but continued to be obviously inadequate.

Thus, the representativeness of the data of the survey of expenditures in the sectors of the national economy of the regions of Siberia for 1972 and 1977 as a whole is quite great. Although the extension of the data of the survey in the sectors of some regions to analogous sectors of other regions, as well as the low representativeness of the sample with respect to some sectors decrease the reliability of individual indicators of the intersectorial balances of the Siberian regions. In the future when compiling the regional intersectorial balances the changeover to the thorough accounting of intersectorial relations is desirable. If for any reasons this is impossible, for the obtaining of more reliable results it is necessary to elaborate for each region, with respect to which it is proposed to compile a balance, its own sample population, which encompasses all the sectors of the regional economy.



Prices and the Peculiarities of the Calculation of the Trade and Transportation Markup. The method of the value measurement (the type of valuation) of products and the expenditures in the regional intersectorial balances depends on how the trade and transportation costs and the turnover tax are reflected in them. Three types of valuation: mixed valuations, the final prices and the prices of production, have found use in our country in the practice of compiling the intersectorial accounting balances.<sup>2</sup> They are all characterized by the assignment of the turnover tax to the producer.

The intersectorial accounting balances of the economic regions of Siberia were constructed in final prices. The regional intersectorial balances, which were compiled with the use of this type of valuation, are characterized by the following peculiarities. All the indicators of the balance: the material flows, the volumes of production and consumption, imports and exports, include the trade and transportation expenditures on loading, transportation, unloading, storage, sale and other operations of the sectors of physical services (transportation and the sectors of the sphere of circulation) along the entire route of the corresponding type of product from the producer to the consumer. The components of the transportation line or the line of the sectors of the sphere of circulation (the trade and transportation markup) are the expenditures on the transportation and sale of the product, which was produced in the given region, to external and internal consumers.

Thus, data on the expenditures of the service sectors of not only one's own, but also the other regions, which are involved in the transportation and sale of the products of the given region, on the importing and exporting of products and the transit volume are necessary for the calculation of the total amount of the trade and transportation markup for regional products and their distribution among the sectors of physical production.

This information is not being specially elaborated for the compiling of accounting balances by statistical organs. Only a portion of the necessary data can be calculated on the basis of the returns of transportation, trade and marketing organizations.

The determination of the trade and transportation markup for products when compiling the intersectorial accounting balances of the economic regions of Siberia was complicated by the lack in the balances of indicators of the importing and exporting of products (which will be spoken about below). The lacking data were obtained on the basis of expert appraisals.

The calculation of the trade and transportation markups in the intersectorial accounting balances of the economic regions was carried out according to the following system.<sup>3</sup>

First that portion of the gross output of the regional service sectors, which is attributable to the output of local production, was calculated and broken down by sectors of physical production. When determining the transportation markup particular attention was devoted to rail transport, since it accounts for a decisive portion of the freight turnover of the region. The data on local transportation (that is, within the regions) and the volumes of the total exports (the volumes of the transportation of products up to the boundaries of the regions) by types of freight in physical terms were taken from the reports of the railroad, including the



balances of interregional exchange. However, through shipment, the proportion of which in the rail transportation of the Siberian regions is great enough so that it would be possible to ignore it, is not singled out from the imports and exports in the balances of interregional exchange. The data on the transportation of imported freight, which were adjusted by the amount of through shipment, and of local freight were multiplied by the average profit rates, were added up by types of products and were brought in line with the products list of the intersectorial balance.

For obtaining the total markup it is still necessary to take into account the indicators of the importing of products of rail transport. There was no information on the revenues of transportation of other regions of the country from the transportation of Siberian products, therefore these values were also obtained on the basis of expert appraisals.

A similar principle was used when determining the markup, which is added by other types of transportation and the sectors of the sphere of circulation to the value of the gross output of the sectors of physical production of the economic regions of Siberia.

The reflection of interregional economic relations is, as is known, one of the most important peculiarities of the regional intersectorial balances. However, this question has not yet found proper coverage in the procedural elaborations on the compiling of the intersectorial accounting balance and in practice is being settled not entirely satisfactorily. Only the import-export balance, which is calculated as the difference between the output produced and used in the region, is given in many regional balances. This stems from objective reasons: first, for the majority of interregional flows of products there are no statistical data which are suitable for use in the process of compiling the intersectorial accounting balance. Second, the use of the sample survey for determining the indicators of imports and exports is not effective due to the great diversity and variability of interregional relations. Therefore, complete and reliable indicators of imports and exports can be obtained only on the basis of a thorough survey. The work on the conducting and the processing of the materials of such a survey in a large region, in the opinion of A. K. Semenov,<sup>4</sup> requires as much time and capital as are spent on the elaboration of all the other indicators of the balance.

In the intersectorial accounting balances of the economic regions of Siberia only the export-import balance was also calculated, since it was not possible to conduct a thorough survey by the forces of the staff members who are engaged in the elaboration of these balances.

In our opinion, specific changes in the system of regional statistics and its adaptation to the needs of the compiling of these balances are necessary for the overcoming of many difficulties and shortcomings of the elaboration of regional intersectorial accounting balances. In particular, the elaboration in full of the information on the interregional flows of products in value terms is especially urgent.

Questions of the Annual Compilation of Intersectorial Accounting Balances of Economic Regions. The intersectorial accounting balances, which are based on the materials of the one-time survey of the structure of expenditures, including regional balances, are compiled comparatively rarely. This stems from the fact that

the survey requires great expenditures of time and capital. However, such a situation complicates the study of the dynamics of the development of regions, particularly the economic regions of Siberia. In this connection the question arises of elaborating the balances without the conducting of a survey, but only on the basis of the data of annual statistical reporting and the already available accounting balances.

In our country studies on this theme have been made by E. B. Figurnov, G. P. Simakova, M. V. Shmulder, A. Zh. Orlovskaya, V. A. Kruglova and O. E. Bauer.<sup>5</sup> The construction of such balances in the consolidated products list of sectors has been used in practice in the Latvian SSR since 1969. The methods being used<sup>6</sup> are well suited for the annual compilation of the balances of a small region, when the amount of statistical information is relatively small.

On the basis of these methods the staff members of the Institute of Economics and the Organization of Industrial Production of the Siberian Department of the USSR Academy of Sciences elaborated more simplified methods of the construction of the intersectorial balances of large economic regions, in accordance with which the intersectorial balances of the economic regions of Siberia of 1970 and 1975 according to consolidated sectors were compiled.

It should be noted that these methods are oriented mainly toward the use of statistical information, which is elaborated with a breakdown by oblasts, krais and autonomous republics or economic regions as a whole, since it is inadvisable to turn to the primary statistical reporting for enterprises and organizations (taking into account that in Siberia there are more than 30,000 industrial enterprises alone).

The drawing up of the section "Industry" creates the greatest difficulties when constructing the estimated<sup>7</sup> balance of the economic region, since in the consolidated statistical materials on industry in practice there are no data which can be carried over directly to the balance: the information in these materials is presented with a breakdown by economic sectors. Moreover, only forms S0 and S-2b, which contain data on the gross output and the components of the necessary product, are drawn up for the entire group of industrial enterprises. The remaining consolidated statistical forms, which contain information on the expenditures on production (form N-3), the profit (form 5f-svodnaya) and others, cover only the enterprises of union subordination.

In Siberia the enterprises of union subordination have a significant share in the gross output of both industry as a whole (more than 60 percent) and such sectors as ferrous and nonferrous metallurgy, the fuel, timber and chemical industries, electric power engineering, machine building and the construction materials industry (from 60 to 100 percent). In the remaining sectors of industry (light, glass, food and others) there are few enterprises of union subordination. Their share in the gross output of these sectors comes to less than 10 percent.

With allowance made for what has been said, the calculation of the indicators for industry was made by means of the following basic operations.

The gross output of the economic sectors in conformity with the classification of the sectors of the estimated balance is determined in accordance with form S0 (which is drawn up by economic regions). The material expenditures, the necessary

and surplus product are calculated by economic sectors, in which the enterprises of union subordination produce more than 60 percent of the gross output.<sup>8</sup> For this the data on the value structure of the gross output at the enterprises of union subordination, which are determined in accordance with forms N-3, S-2b and 5f-svodnaya, are extended to the entire group of enterprises of the sector. Several most important components of the expenditures, which are singled out by a separate line in form N-3 and correspond to a specific line item of the estimated intersectorial balance: fuel, electric power, amortization, are calculated in much the same way.

The obtained data on the gross output, the material expenditures, the necessary and surplus product by economic sectors are multiplied by the corresponding entries of the matrix of the transition from economic to pure sectors.<sup>9</sup> The approximate totals and some components of the expenditures by sectors, which produce more than 70 percent of the gross output of industry, can thus be obtained. The remaining components of the material expenditures in these sectors, as well as the indicators of the value composition and the structure of material expenditures with respect to the other part of industry are determined on the basis of the previous intersectorial accounting balances, which have been adjusted with allowance made for the dynamics of the coefficients.

When drawing up the other sections of the balance to a considerable extent it is possible to make direct use of the data of statistical reporting: for example, with respect to agriculture--the data of the annual reports of kolkhozes and sovkhozes, with respect to personal consumption--the data of the commodity turnover and so on.

Such are the basic features of the compiling of the estimated intersectorial balances of the economic regions of Siberia. So far their elaboration has been mainly of an experimental nature. Many questions still require specification and modification. In particular, some revision of the above-described methods will be required in connection with the possibilities of the use of the materials of the one-time recording of the expenditures on the production of products, which since 1955 have been elaborated by the USSR Central Statistical Administration for the annual compiling of the intersectorial balances of the USSR in accordance with the consolidated classification of sectors.

**The Comparability of the Intersectorial Accounting Balances.** Let us dwell on the questions of the comparability of the intersectorial accounting balances of one region for a number of years. The causes of incomparability might lie in the differences of the sectorial classifications, in the use of different methods of the valuation of products, the calculation of the trade and transportation markup, imports and exports, the turnover tax and so on (procedural incomparability), in incomparable prices, since the intersectorial accounting balances are elaborated initially in current prices.

The intersectorial accounting balances of the economic regions of Siberia are procedurally comparable, since the balances of 1966 and 1972 were compiled for the most part according to the methods of the elaboration of the balances of the economic regions of the RSFSR,<sup>10</sup> while the balances of 1970 and 1975 were compiled according to methods which are close to them.



The problem of ensuring the comparability of the balances according to the sectorial classification in principle can be solved easily. For this it is necessary for all the balances to be elaborated according to a uniform sectorial classification or according to classifications which are reduced to a comparable form by the aggregation of the sectors. However, in practice the elimination of the incomparability of the balances owing to the different sectorial classification is complicated by the following circumstances. The sectorial classification of industry is revised from time to time by statistical organs, and some types of products, which have not been formed into a separate line item in the intersectorial balances, are transferred from one sector to another. It is not always possible to take precisely into account the influence of such changes, therefore the increase of the sectorial detailing of the intersectorial balances is necessary.

Let us note that the presently used classifications of sectors in the regional intersectorial balances nearly coincide with each other and with the sectorial classification of the union balance. The possibility of interregional comparisons and the determination of the place of the region in the economy of the country is explained by this. However, such a classification does not give a sufficiently complete idea of the peculiarities of the production structure in regions. Thus, for example, in the gross product of Siberia, as compared with other regions and the country as a whole, the share of the raw material sectors is substantially greater. At the same time in accordance with the used sectorial classification it is very difficult to single out the raw material subsectors. So that the balances would reflect to a greater extent the specific nature of individual regions, in our opinion, a more broken-down classification of sectors, especially with respect to the sectors of specialization, is necessary.

In case of the reduction of the accounting balances of one region for a number of years to a comparable form the problem of the transition from current prices (the prices which were actually in effect) to comparable prices is most difficult. At present this problem has still been inadequately studied procedurally.<sup>11</sup>

After 1966 the prices changed most significantly as a result of the 1967 reform, which was aimed at bringing the prices of industrial products closer to the socially necessary expenditures on their production. Prior to 1967 many enterprises of the extractive industry and the primary processing of raw materials had a low and even a negative profitability, while some sectors were unprofitable as a whole (for example, the coal industry in Siberia). In accordance with the 1967 reform the prices for the products of the raw material sectors (many sectors of specialization of Siberia) were increased significantly. Consequently, the intersectorial accounting balances of the Siberian regions for 1966 in current prices are especially incomparable with the balances of current years. Since an exact conversion was impossible due to the lack of the necessary information, in order to discern if only the trends of price changes, the accounting balances of Western and Eastern Siberia for 1966 were converted into the new prices in accordance with the average republic indices (RSFSR).

As a result of this reevaluation the value significance of many indicators of the reproduction of the regions of Siberia changed substantially. The gross product "increased" by 7.9 percent, the net product--by 5.6 percent. The profit for the economy of Siberia as a whole "increased" by 1.3-fold. The gap between the indicators of the production and consumption of products in the region "decreased." Whereas in the prices of 1966 the produced gross product as a ratio to the consumed



gross product came to 1:1.2 and the produced net product as a ratio to the used national income came to 1:1.3, in the prices of 1967 these ratios came respectively to 1:1.07 and 1:1.15.

As a result of the recalculation of the prices in the gross product of Siberia the share of the sectors, which are connected with the extraction and primary processing of raw materials: metallurgy, the fuel and timber industries, "increased." The share of the extractive sectors in the gross output of industry "increased" from 13.2 to 16.6 percent. As a whole the share of industry in the gross product remained at the former level. The share of construction, transportation and communications increased slightly and the share of agriculture decreased.

Thus, the valuation meanings of the indicators of the intersectorial accounting balances are very sensitive to the change of the initial measurers (prices). Therefore the elaboration of methods of reevaluation and the reduction of the balances of the regions of Siberia to a comparable form, which will significantly broaden their analytical possibilities in the study of the dynamics of the real physical ratios and the intersectorial relations of Siberia, will be one of the directions of further work.

At present, in addition to the indicators which characterize the direct, "visible" ratios of the economy of regions, the indicators, which are obtained by means of the model of the intersectorial balance and reflect the internal laws of the regional process of reproduction, are being used in the analysis. Among them are the coefficients of the total material expenditures and the expenditures of resources, the indicators of the total exports and imports and the total needs for products and resources for the funds of final consumption. Moreover, the intersectorial accounting balances serve as the information base for the formation of the block of Siberia in the interregional intersectorial models, which are being used for the analysis and forecasting of the most important territorial proportions of the USSR, the study of the interaction of territorial subsystems and the study of the process of the functioning of individual regions in the unified national economic complex of the country.<sup>12</sup>

#### FOOTNOTES

1. Here the task of developing new methods, which encompass all the questions of the construction of the intersectorial accounting balances of regions, was not posed, since their basic provisions have already been adequately elaborated (see "Mezhotraslevoy balans proizvodstva i raspredeleniya produktsii ekonomicheskogo rayona" [The Intersectorial Balance of the Production and Distribution of the Products of an Economic Region], Moscow, Nauka, 1964; M. R. Eydel'man, "Mezhotraslevoy balans obshchestvennogo produkta" [The Intersectorial Balance of the National Product], Moscow, Statistika, 1966; "Mezhotraslevoy balans ekonomicheskogo rayona" [The Intersectorial Balance of the Economic Region], Moscow, Nauka, 1967, and others) and have been used when compiling the balances of the Siberian regions. The main attention here is devoted to the questions, which have been covered little in the literature, and the difficulties which arose in the work on the balances of the economic regions of Siberia.

2. The mixed type of valuation was used when constructing the intersectorial accounting balances of the union republics (except for Latvia) for 1966 and 1972. The balances of the economic regions of the RSFSR of 1966 and 1972 were elaborated in final prices. For the Latvian SSR the balances were compiled both in final prices and in the prices of production.
3. The calculation was made by L. I. Legkostup.
4. A. K. Semenov, "Mezhotraslevoy balans respublik1" [The Intersectorial Balance of the Republic], Moscow, Statistika, 1972.
5. E. B. Figurnov, G. P. Simakova, "Some Methodological Problems of the Annual Construction of Intersectorial Balances," "Statistika i elektronno-vychislitel'naya tekhnika v ekonomike" [Statistics and Computer Equipment in Economics], Issue 5, Moscow, Statistika, 1972, pp 248-274; M. Shmulder, A. Orlovskaya, V. Kruglova, O. Bauer, "Procedural Questions of the Annual Compilation of the Intersectorial Accounting Balances of a Union Republic," EKONOMIKA I MATEMATICHESKIYE METODY, Vol 11, No 3, 1975, pp 564-573; M. V. Shmulder, "Otchetnyye mezhotraslevyye balansy soyuznoy respublik1" [The Intersectorial Accounting Balances of the Union Republic], Riga, Zinatne, 1980.
6. M. V. Shmulder, "Otchetnyye mezhotraslevyye balansy...."
7. We will call the balances, which are elaborated without the conducting of a survey of the structure of the expenditures on production, estimated balances.
8. The statistical forms used here are elaborated with a breakdown by krais, oblasts and autonomous republics. Therefore in the process of calculation all the necessary data are reduced with respect to economic regions as a whole.
9. This matrix is calculated in accordance with the materials of the forms of the one-time survey of the structure of the expenditures on production, which were elaborated for the previous intersectorial accounting balance. The expenditures both by economic sectors and by pure sectors are presented in them.
10. "Mezhotraslevoy balans proizvodstva..."; "Mezhotraslevoy balans ekonomicheskogo rayona."
11. M. R. Eydel'man examines the methods of the conversion of the union intersectorial accounting balance of 1966 in the prices on 1 June 1967, which are based on the data of ministries and departments on the prices before and after the 1967 price reform. Therefore it is impossible to use it for the calculation of the balances of other years (see M. R. Eydel'man, "An Attempt at the Reevaluation of the Intersectorial Accounting Balance for 1966 in the New Prices," VESTNIK STATISTIKI, No 2, 1972, pp 3-14). The methods of obtaining balances of the union republic, which are comparable in time, were described by M. V. Shmulder (see M. V. Shmulder, "Otchetnyye mezhotraslevyye balansy..."). These methods in practice are not applicable to the balances of economic regions, since for the most part they are oriented toward the use of the information of the balances of the national product, which are not elaborated with respect to economic regions.

12. "Analiz mezhotraslevykh svyazey Sibiri i Dal'nego Vostoka" [The Analysis of the Intersectorial Relations of Siberia and the Far East], Parts 1, 2, Novosibirsk, 1972; "Mezhotraslevyye svyazi i narodnokhozyaystvennyye propotsii Sibiri i Dal'nego Vostoka" [The Intersectorial Relations and National Economic Proportions of Siberia and the Far East], Novosibirsk, 1974; "Balansovyy metod v analize i planirovani regional'noy ekonomiki" [The Balance Sheet Method in the Analysis and Planning of the Regional Economy], Novosibirsk, 1977; "Mezhotraslevyye balansy v analize territorial'nykh propotsiy SSSR" [Intersectorial Balances in the Analysis of the Territorial Proportions of the USSR], Novosibirsk, Nauka, 1975; "Sibir' v yedynom narodnokhozyaystvennom komplekse strany" [Siberia in the Unified National Economic Complex of the Country], Novosibirsk, Nauka, 1980.

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#### Changes in Reproduction Ratios

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[Article by Yu. G. Krivov, the RSFSR Central Statistical Administration (Moscow): "The Basic Trends of the Change of the Most Important Reproduction Ratios of the National Economy of Siberia"]

[Text] Considerable experience in compiling regional intersectorial balances has been gained in the RSFSR Central Statistical Administration. In particular, intersectorial accounting balances have been compiled for three eastern regions of the country for 1972 and 1977. An analysis of the basic changes of the reproduction ratios of the national economy of the Western Siberian and Eastern Siberian Economic Regions in comparison with the analogous indicators for the USSR as a whole has been made on the basis of the accounting balances.<sup>1</sup> As a result it was possible to reveal the structural peculiarities of regional reproduction with a breakdown by the two most important economic subdivisions of the national product (Table 1). The cited data attest that the share of production in the gross product of Western and Eastern Siberia exceeds the analogous average union indicator. The rapid development of the Siberian region is being ensured primarily by the high growth rate of the production of the products of subdivision I. Here, whereas the tendency for the growth rates of both economic subdivisions of the national product to come closer was observed for the USSR as a whole, in Siberia, on the contrary, the gap between the growth rates of the production of means of production and the production of consumer items is increasing more and more. Thus, during 1973-1977 the difference between the growth rates of subdivisions I and II of the national product for the country as a whole came to approximately 4-5 percent in favor of the means of production, in Eastern Siberia respectively 16 percent, while in Western Siberia--18 percent. As a whole such a trend conforms to the role of Siberia in the system of the territorial division of labor as the largest supplier of raw materials and products of the procurement type. In exchange the region receives from

1. The data for the USSR are cited or were calculated by the author in accordance with the materials contained in the article of M. R. Eydel'man and A. M. Volkov "The Use of the Data of Intersectorial Accounting Balances for the Analysis of the Basic Economic Proportions," VESTNIK STATISTIKI, No 2, 1981.

other regions of the country fabrics, clothing, footwear, cultural, personal and household goods and other consumer items. This is confirmed by the data on the interregional exchange of products, which were obtained during the elaboration of the intersectorial accounting balances by economic regions. Thus, in 1977 of the total amount of products exported from Western Siberia the means and objects of labor came to 77 percent (in Eastern Siberia--78 percent). At the same time consumer items accounted for 38 percent of the total amount of the products imported to Western Siberia and 42 percent of those imported to Eastern Siberia.

Table 1

Ratio of Subdivisions I and II of the Gross National Product\* in the USSR and the Economic Regions of Siberia (percent of total)

Region	Production of	
	means of production	consumer items
USSR		
1972. . . . .	63.4	36.6
1977. . . . .	64.2	35.8
Western Siberia		
1972. . . . .	64.6	35.4
1977. . . . .	67.7	32.3
Eastern Siberia		
1972. . . . .	63.3	36.7
1977. . . . .	66.2	33.8

\*The gross national product in Tables 1-3 is taken to be 100 percent.

However, in the composition of subdivision II there are also such products, which cannot be supplied through the interregional exchange of commodities. This pertains first of all to the facilities of the social infrastructure--housing resources, organizations and facilities of municipal services, health care, education, culture and so forth. Siberia as a region of new development is inadequately provided with precisely such facilities as compared with other regions of the country, which is confirmed by the corresponding data of the intersectorial balances and by the indicators of social statistics.

The comparative analysis of the structure of the gross national product of the Siberian regions and the country as a whole is of great interest. The data of Table 2 show that the structure of the national product of the Siberian regions differs substantially from the average union structure, while its development is more dynamic. The high level of industrial development of this region, to which the more significant contribution of this sector to the formation of the regional gross national product attests, is the most important structural peculiarity of the physical production of Siberia. Here the rates of industrial development of Western and Eastern Siberia appreciably exceed the average union growth rates.

In contrast to the country as a whole, where production in the sectors, which stimulate the further development of technical progress (machine building, electric power engineering, the chemical and petrochemical industries), increased as a leading rate,



in the industry of Siberia the sectors, which determine the national economic specialization of the region in the system of the territorial division of labor (the petroleum, gas and petrochemical industries, the sectors of the timber industry and others), developed most rapidly.

Table 2

Sectorial Structure of the Gross National Product in the USSR and the Economic Regions of Siberia (percent of total)

Region	Output of				
	indus-try	agricul-ture	construc-tion	transpor-tation and communica-tions	sectors of sphere of circulation and others
USSR					
1972. . . . .	63.8	14.9	10.1	4.3	6.9
1977. . . . .	63.8	14.8	10.0	4.4	7.0
Western Siberia					
1972. . . . .	63.1	16.1	12.3	5.0	3.5
1977. . . . .	65.1	12.3	13.2	5.9	3.5
Eastern Siberia					
1972. . . . .	65.2	11.8	12.9	6.1	4.0
1977. . . . .	66.8	10.7	12.5	6.3	3.7

At present Siberia leads the USSR on the average in the per capita production of such most important products as coal, petroleum and gas, steel and rolled ferrous metal products, timber, lumber and others.

The important role of capital construction is manifested in the greater share of the gross output of construction in the national product of both economic regions. It should be noted that the slight decrease of the share of construction in the gross product of Eastern Siberia and its increase in the national product of Western Siberia to a certain extent reflect the strategic policy of the party of redistributing the amounts of capital investments in favor of the Western Siberian Economic Region for the purposes of the quickest possible industrial development of the Tyumen Petroleum- and Gas-Bearing Province and the creation there of large territorial production complexes.

The vastness of the territory of Siberia and its remoteness from the European industrial centers are increasing the importance of the transportation factor in the Siberian economy. Therefore the greater share of transportation and communications in the regional national product as compared with the average union level is natural.

In recent years transportation has become one of the rapidly developing sectors of the national economy of Siberia. Suffice it to note the impressive scale of the building in Western Siberia of a mighty network of main petroleum and gas pipelines or the construction in Eastern Siberia of the western arm of the Baykal-Amur Railway Line. At the same time the transportation system of Siberia for the present is a limiting factor of regional development. The load of the transportation network has reached in the region such a high level that its further intensification is

becoming very problematic. Moreover, the process of the economic development of Siberia is advancing farther and farther to the north, while the bulk of the transportation network is located in the most inhabited southern portion of the region. All this is making transportation one of the bottlenecks in the national economy of Siberia.

Western Siberia has more favorable climatic conditions for the development of agriculture than the Eastern Siberian Economic Region, therefore the contribution of this sector to the formation of the gross product is greater in Western Siberia. At the same time the severe unstable climate of Siberia is affecting the development of agriculture here and is leading to significant fluctuations of the levels of production by years. Thus, the decrease of the share of agricultural production in the regional national product of Western Siberia was due to the appreciable decrease of the volume of output of plant growing in 1977 as compared with 1972 due to unfavorable weather conditions.

The regional intersectorial accounting balances of the production and distribution of products made it possible to reveal the peculiarities of the value structure of the gross national product and the national income as a whole and with respect to the basic economic subdivisions (Table 3).

Table 3

Value Structure of the Gross National Product in the USSR and the Economic Regions of Siberia (percent of total)

Region	Material production expenditures	Wages	Surplus product
Total national product			
USSR			
1972. . . . .	56.3	22.0	21.7
1977. . . . .	57.3	21.1	21.6
Western Siberia			
1972. . . . .	53.9	25.2	20.9
1977. . . . .	55.4	23.3	21.3
Eastern Siberia			
1972. . . . .	52.3	23.6	24.1
1977. . . . .	55.5	22.3	22.2
Means of production			
USSR			
1972. . . . .	59.5	22.2	18.3
1977. . . . .	61.5	21.1	17.4
Western Siberia			
1972. . . . .	55.0	26.5	18.5
1977. . . . .	58.0	23.5	18.6
Eastern Siberia			
1972. . . . .	52.7	25.0	22.3
1977. . . . .	60.2	22.2	17.6

[Table continued on following page]

Region	Material produc- tion expenditures	Wages	Surplus product
	Consumer items		
USSR			
1972. . . . .	50.8	21.7	27.5
1977. . . . .	49.8	21.2	29.0
Western Siberia			
1972. . . . .	51.9	22.7	25.4
1977. . . . .	50.1	22.8	27.1
Eastern Siberia			
1972. . . . .	51.4	21.1	27.5
1977. . . . .	46.3	22.5	31.2

The cited data show that the share of the material production expenditures in the gross national product and in the production of means of production of Siberia is less than for the USSR as a whole. In Eastern Siberia, moreover, the level of material expenditures in the production of consumer items is less than the average union level. The relatively low level of the materials-output ratio of social production of the Siberian region to a considerable extent reflects the specific nature of its sectorial structure, which finds expression in the preferential development here of less materials-consuming (but more capital-intensive) sectors of the raw material and procurement type.

The dynamics of the materials-output ratio of the total national product and the basic economic subdivisions of Siberia for the most part has the all-union trends. However, in the region these trends are of a more profound nature. Thus, whereas for the USSR as a whole the share of national labor in the production of means of production increased during 1973-1977 by 2 percent, while in the production of consumer items it decreased by 1 percent, in Western Siberia these changes came to +3.0 and -1.8 percent, while in Eastern Siberia they came respectively to +7.5 and -5.1 percent. The high rate of change of the materials-output ratio of the national product of Siberia reflects the dynamism of the sectorial structure of the regional production complex, in which in recent years a large number of works for the more thorough processing of the raw materials being extracted here have arisen. At the same time this complicated process cannot be explained so unequivocally. The periodic changes of wholesale prices have a great influence on the dynamics of the materials-output ratio of social production. However, on the regional level this question requires additional study, which goes beyond the framework of this work.

The share of the wages in the gross national product and in the basic economic subdivisions of both regions steadily exceeds the average union level. This is explained, on the one hand, by the differences in the sectorial structure of physical production and, on the other, by the regional peculiarities of the wage rates, which to a certain extent compensate the workers for work under the severe climatic conditions of the eastern regions of the country. Moreover, the expansion in recent years of the construction in Western and Eastern Siberia of facilities of the nonproduction infrastructure and the corresponding increase of the contribution of capital construction to the total volume of output of subdivision II have had a

great influence on the increase of the share of the necessary product in the value of the consumer items produced in these regions. However, the steady increase of the productivity of national labor naturally is leading to the decrease of the share of "the product for oneself" in the structure of the gross national product of the country and the economic regions.

The dynamics of the surplus product ("the product for society") in the eastern regions conforms to the all-union trends and is characterized by the decrease of its share in the value of the gross product and the means of production and by its increase in the value of the products of subdivision II. The ratio between the two components of the net product is characterized by the indicator of the norm of the surplus product ( $m:V$ ). This indicator in the Siberian regions differs substantially from the average union level.

From the analysis of Table 4 it follows that given the stability of the surplus product in subdivision I of the country as a whole its increase in Western Siberia and decrease in the Eastern Siberian Economic Region by 10 percent were observed.

Table 4

Dynamics of the Norm of the Surplus Product in the USSR and the Economic Regions of Siberia, percent

Region	Norm of surplus product		
	In gross national product	In means of production	In consumer items
USSR			
1972. . . . .	98	82	127
1977. . . . .	102	82	137
Western Siberia			
1972. . . . .	83	69	112
1977. . . . .	91	79	119
Eastern Siberia			
1972. . . . .	102	89	130
1977. . . . .	99	79	139

Such a difference in the direction of the dynamics of the norm of the surplus product for the country and individual regions to a considerable extent is a consequence of the nonuniform influence on the regional economy of the measures on the improvement of the system of prices, rates and wage rates, as well as the flexibility of the sectorial structure of the national economy of the eastern regions.

The fact that in contrast to the USSR as a whole and Western Siberia the norm of the surplus product with respect to the entire gross product of Siberia is tending to decrease, is also of great importance. This is explained first of all by the relatively low growth rate of the production of consumer items.

The analysis of the level and dynamics of the norm of the surplus product with a breakdown by regions is of great importance in the planning of such basic ratios of the development of the national economy of economic regions as the ratio between the consumption fund and the accumulation fund, the monetary income and expenditures of the population and others.



Thus, in contrast to the country as a whole the basic reproduction ratios of the national economy of Siberia changed substantially during the 5-year period, while the direction of these changes was frequently opposed to the trends characteristic of the all-union economy. Here, the greater the efficiency of the national economy of Siberia is and the greater its contribution to the all-union economy is, the more dynamically the basic reproduction ratios will change. The consideration of these factors is necessary in preplanning studies for the improvement of the proportionality of the development of the Siberian region and the increase of the balance of the plans of the economic and social development of Siberia.

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#### Use of Balance Sheet Data

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[Article by N. N. Mikheyeva, Institute of Economic Studies of the Far Eastern Scientific Center of the USSR Academy of Sciences (Khabarovsk): "The Analysis of Intersectorial and Interregional Interactions on the Basis of the Information of the Intersectorial Accounting Balances of the Far East"]

[Text] Definite experience in the compiling and use in economic analysis of intersectorial accounting balances has been gained in the Far Eastern regions. A number of studies of the intersectorial relations of the Far Eastern regions have been made on the basis of the information contained in the intersectorial balances. But in connection with the fact that these studies were carried out in isolation with respect to each region, inadequate attention was devoted to the questions of the analysis of the influence of external relations on the formation of the reproduction ratios in the regions and especially to their mutual influence.

The share of imported resources in the total volume of consumer products amounts for the Far East to approximately one-third and comes to nearly 40 percent in Kamchatka and Magadan Oblasts. Such a significant influence of external relations on the formation of the resources of consumption of the Far Eastern regions, as well as the remoteness and the relative economic isolation of the Far East make especially important the question of the joint study of the economy of the Far Eastern regions, which takes into account their interregional interaction. The interregional intersectorial models act as the mathematical economic tool of such studies.

Experience in using for the analysis of intersectorial and interregional relations a set of territorial units of the interregional intersectorial balance,<sup>1</sup> which have been constructed following the pattern of the model of Moses, has been gained in the USSR and abroad. The use of this model for the analysis of the interregional and intersectorial relations of the Far East requires the consideration in it of the peculiarities of the external relations of the Far Eastern regions.

The specific nature of the formation of the resources of consumption of the Far Eastern regions consists in the significant share in them of the products which constitute noncomplementary imports. According to the data of the intersectorial balance for 1972, 33.8 percent of the imported resources are formed by means of noncomplementary products. In the northern regions the noncomplementary imports

account for more than half of the imported resources, in Sakhalin Oblast--58.6 percent, in the Yakutsk ASSR--52.8 percent.

Noncomplementary and produced products perform different functions in the formation of the regional resources of consumption. Bilateral relations (imports and exports) are possible only with respect to the products produced in the region, the entire volume of consumption of noncomplementary products is formed by means of imports. The specific nature of the external relations of the Far Eastern regions requires an individualized approach to their description when constructing territorial models. Therefore we consider it expedient to use when analyzing the intersectorial and interregional relations of the Far East the models with equations of noncomplementary imports.<sup>2</sup>

The distinction of the noncomplementary products introduces a number of peculiarities in the construction of the model of the interregional intersectorial balance and in the determination of the coefficients of the total interregional expenditures. In conformity with the adopted premises of the regional model with noncomplementary imports the noncomplementary products are considered noninterchangeable with the products produced in the region and are an external resource for the region. Two groups of coefficients: the coefficients of the total expenditures of the products produced in the region and the coefficients of the total expenditures of noncomplementary imports, appear as the result of the calculations according to the regional model with noncomplementary imports. The coefficients of the total expenditures of the produced products establish the relationship between the amounts of final product, which is used in the regions, and the volumes of regional production.

The peculiarity of the coefficients of the total expenditures of produced products consists in the fact that they do not include the expenditures on the production of products of noncomplementary imports, since the latter are carried out outside the region. The coefficients of the total expenditures of noncomplementary imports establish the relationship between the amounts of the used final product of the region and the total needs for imports of noninterchangeable products. In this sense the coefficients of the total expenditures of products of noncomplementary imports are analogous to the expenditures of "external" resources.

The interregional balance model with allowance made for the production of noncomplementary imports makes it possible to make analytical calculations which are characteristic both of the interregional balance model and of the model of the interregional intersectorial balance. The calculations according to the model of the intersectorial balance made it possible to evaluate the degree of influence of individual regions on the formation of the total expenditures on the supply of the final product and its functional elements in each of them, to analyze the indirect interregional redistribution of manpower resources and fixed production capital, which is carried out in case of interregional exchange, and to evaluate the role of each of the regions in the formation of the total expenditures on the final product.

The consideration of the noncomplementary deliveries in the interregional model makes it possible to obtain a number of additional indicators, which characterize the external relations of the regions and are specific for the model with noncomplementary imports: the total expenditures of the noncomplementary products on exports, which reflect the indirect reexport of products of the noncomplementary imports, the "total saving" of noncomplementary imports in the regions as a result of the making of complementary deliveries.

The calculations according to the interregional model were made with a breakdown by administrative territorial units of the Far Eastern Economic Region in a 21-sector classification.

The analysis of the coefficients of the total interregional intersectorial expenditures, which were obtained on the basis of the calculations according to the model, showed the significant mutual influence of the regions in case of the formation of the total expenditures, which confirms the advisability of using the proposed version of the model in the calculations.

The calculations, which were made according to the model of the interregional balance of the Far East, attest to the substantial difference in the degree of involvement of the regions in the intraregional exchange. Khabarovsk Kray and Amur Oblast are distinguished by the greatest activeness in the intraregional exchange. In 1972 26.9 percent of the gross national product of Khabarovsk Kray and 22.9 percent of the gross product of Amur Kray were spent on the production of the final product of the Far Eastern regions (see the table). The economy of Maritime Kray, from which 16.9 percent of the gross national product of the kray was indirectly redistributed to the Far Eastern regions, is less "open" with respect to the Far Eastern regions. The share of the gross product of the northern regions, which is indirectly redistributed to the Far Eastern krays and oblasts, is negligible.

Territorial Structure of the Total Expenditures on the Production  
of the Final Product

Consuming region Supplying region							
	Amur Oblast	Khabarovsk Kray	Maritime Kray	Kamchatka Oblast	Sakhalin Oblast	Magadan Oblast	Yakutsk ASSR
Amur Oblast. . . . .	69.9	2.7	0.8	3.2	9.1	1.5	.4
Khabarovsk Kray. . . . .	8.9	70.5	7.2	8.8	8.9	1.2	.4
Maritime Kray. . . . .	2.9	7.1	68.4	4.9	3.6	2.1	.5
Kamchatka Oblast. . . . .	0	0	0	59.4	1.3	0	0
Sakhalin Oblast. . . . .	1.1	2.4	1.5	2.0	48.2	3.4	0.1
Magadan Oblast. . . . .	0	0.2	0	0	0	71.8	0.5
Yakutsk ASSR. . . . .	0	0	0	0	0	1.8	63.9
Beyond the Far East. . . . .	17.2	17.1	22.1	21.5	28.9	18.2	28.2

An intensive interregional exchange of products is being carried out between the southern regions: Khabarovsk Kray, Amur Oblast, Maritime Kray, a significant portion of the gross national product of Sakhalin Oblast is involved in the intraregional exchange. The degree of orientation of the southern regions toward the meeting of the needs of the northern regions is also different. The economy of Amur Oblast, in which 16.4 percent of the gross national product is redistributed to the northern regions and only 6.5 percent is redistributed to the southern regions, is oriented to the greatest extent toward deliveries of products to the northern regions. The inverse ratio is characteristic of Khabarovsk and Maritime Krays: the share of the gross product of Maritime Kray, which is redistributed to the southern regions, comes to 14.8 percent of the gross product, 12.1 percent of the output of the kray is redistributed to the northern regions,



for Maritime Kray these indicators come respectively to 9.0 percent to the southern regions and 8.0 percent to the northern regions.

Given the relatively small shares of the redistributed resources of the southern regions in their gross product the influence of the deliveries of the southern regions on the formation of the resources of consumption in the northern regions is significant. Thus, the expenditures of the gross output of Khabarovsk Kray on the backing of the final consumption of Kamchatka Oblast comes to only 3.3 percent of the gross product of the kray, while they form 8.8 percent of the total expenditures on the backing of the final consumption of Kamchatka Oblast (see the table).

The model of the interregional balance makes it possible to study the purpose of imported products and to identify the role of the different regions in the formation of the functional components of the final product. The peculiarity of the interregional relations of the Far Eastern regions consists in the fact that the indirect redistribution of the gross national product is aimed primarily at the formation of the consumption fund. In Maritime Kray 12.2 percent of the gross product is used directly and indirectly for the backing of consumption funds, while the share of the gross product, which is allocated for the accumulation fund, comes to only 5.7 percent. As a whole Maritime Kray forms approximately a third of the expenditures of the Far East on the backing of the consumption fund. The role of Khabarovsk Kray in the formation of the accumulation fund of the Far Eastern regions is analogous to the role of Maritime Kray in the backing of the consumption fund. The share of the gross national product of Khabarovsk Kray, which is allocated for the formation of the accumulation fund, comes to 9.0 percent, the kray provides 22.7 percent of the total expenditures of the Far East on accumulation. The analysis of the coefficients of the total expenditures of noncomplementary products on the final product and its functional components is of definite interest.

Above we indicated that noncomplementary imports make up 33.8 percent of the total amount of resources imported to the region. In all 22.5 percent of the total expenditures on the supply of the final product, which is consumed in the region, are formed by means of mandatory imports. The expenditures on the backing of the consumption fund make up about 60 percent of the noncomplementary products which are used for consumption and accumulation. The total expenditures of noncomplementary imports exceed their direct amount, which is used for the backing of the consumption fund, by 1.9-fold, this amount exceeds the total expenditures of the individual regions on the consumption fund.

The formation of the accumulation fund of the Far East depends to a smaller extent on the deliveries of noncomplementary products.

As a whole the calculations, which were made according to the model of the interregional intersectorial balance, made it possible to point out the following peculiarities of the interregional and intersectorial relations of the Far Eastern regions.

For the regions of the southern zone (Amur Oblast, Khabarovsk Kray, Maritime Kray) of the Far East the intrazonal relations are more intensive than the interzonal relations. The southern regions at present are oriented to a greater extent toward the meeting of their own needs than the needs of the other regions of the



Far East. The interregional relations of all the Far Eastern regions are characterized by a stronger orientation toward interaction with the remainder of the country than toward intrazonal interaction. The calculations show that the reorientation of a portion of the external relations of the regions of the southern zone of the Far East with the remainder of the country toward the northern regions is one of the reserves of the increase of the efficiency of the economy of the region.

The interregional relations of the Far East are characterized by negative amounts of the direct and total export-import balance. About 3 percent of the gross national product of the region is spent on the exporting of products beyond the Far East. The total saving of direct and indirect expenditures from the importing of products to the region comes to about 46 percent of the amount of the gross national product. As a result the indirect redistribution of products to the Far East, which was accomplished as a result of the implementation of interregional relations, came to about 9 percent of the amount of the gross national product of the region.

The interregional exchange of the Far East is accompanied by the indirect redistribution outside the region of manpower resources (3.7 percent of the number of people employed in the region) and fixed production capital (3.9 percent of its amount in the region). Such a situation attests to the insufficiently effective nature of the interregional exchange of the Far East.

The analysis of the total expenditures of the products of noncomplementary imports on the implementation of interregional relations attests to the significant amounts of the indirect reexport of noncomplementary products, which is being carried out primarily in ferrous and nonferrous metallurgy, where the share of the total expenditures of noncomplementary products on exports comes respectively to 36 and 82 percent of the volume of noncomplementary deliveries of products in the region, in the fuel industry--39.7 percent, in the timber and wood processing industry--48 percent. Khabarovsk Kray accounts for nearly a third of the indirect reexport of noncomplementary products, which is due to the nonconformity of the structure of production of ferrous metallurgy of the kray and its machine building to the needs of the Far East and is leading to significant amounts of inefficient cross-hauls.

The first attempt at the analysis of the ratios of the production and distribution of the products of the Far Eastern Economic Region on the basis of the interregional intersectorial model showed the promise of such an approach to the study of the economy of the Far East.

#### FOOTNOTES

1. See L. N. Moses, "The Stability of Interregional Trading Patterns and Input-Output Analysis," *THE AMERICAN ECONOMIC REVIEW*, XLV, No 5, December 1955; K. R. Polenske, "The Implementation of a Multiregional Input-Output Model for the United States," "Input-Output Techniques," 1971; "Mezhotraslevyye balansy v analize territorial'nykh proporsiy" [Intersectorial Balances in the Analysis of Territorial Proportions], Novosibirsk, 1975; A. G. Granberg, V. S. Zaykin, V. Ye. Selivestrov, "Rossiyskaya Federatsiya v obshchesoyuznoy ekonomike. (Mezhotraslevoy analiz)" [The Russian Federation in the All-Union Economy (An Intersectorial Analysis)], Novosibirsk, Nauka, 1981.

2. See "Some Questions of the Spatial Aggregation of Regional Intersectorial Balances With Allowance Made for Noncomplementary Imports," "Issledovaniye mezhot-raslevykh territorial'nykh proportions" [The Study of Intersectorial Territorial Proportions], Novosibirsk, 1980, pp 155-168.

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